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In Memoriam.

AUGUSTIN PRICHARD,

F.R.C.S. Eng., M.D. Berlin, L.S.A.

In the first decade of the present century, Bristol had the good fortune to be selected as the future residence of a promising young physician of extraordinary ability. Endowed with talents of the highest and most varied order, with a most retentive memory, and with indomitable perseverance, he was determined to devote to the profession of his choice the great ability and energy which he possessed. He began well when he took his degree at Edinburgh; for the subject of his thesis was, "De generis humani varietate." He had been educated at a first-rate school, where he had been thoroughly grounded in ancient languages, literature, and history. After leaving school he had, by continental travel, acquired an equally good knowledge of modern languages and of the natural sciences which particularly bore on the great subject of his Edinburgh thesis. In addition he was, by industry and close study, laying the foundations of

his well-known work, *The Physical History of Man*,[1] which he published some years afterwards, and which gained him in England the honoured title of F.R.S., and abroad the still greater honour of a European reputation, for his book soon became a classic, and was acknowledged to be the best book of the time on anthropology. This scholarly and learned man was Dr. James Cowles Prichard, the father of Augustin Prichard, who became such a distinguished practitioner and teacher of surgery in our midst, and whose death we and all Bristol have recently had to lament.

Augustin Prichard, the second son of Dr. J. C. Prichard, was born at 39 College Green, on July 16th, 1818. After being for some time at a school which is described in the local directory of the period as a "French and Commercial School," and which had been from 1824 under the direction of Mr. F. Norton, at 33 Old Park, Bristol, he went to the Bristol College at the age of 13, and remained there for three years, when he was apprenticed to his uncle, Mr. J. B. Estlin, a well-known surgeon of the time. During this time he studied at the Bristol Infirmary and Medical School. In 1839 he became a student at St. Bartholomew's Hospital, and took the M.R.C.S. and L.S.A. in the following year. After this he went to Berlin, where he took his M.D. From Mr. Estlin, who was a distinguished oculist, Mr. Prichard had derived a taste for ophthalmology, and the subject of his thesis at Berlin was "Iritis." From Berlin he went to Vienna, and had the advantage of seeing the eye work of Jaeger. He came back

[1] Professor E. B. Poulton, F.R.S., writing in *Science Progress* in April, 1897, on "A Remarkable Anticipation of Modern Views on Evolution," says: "Prichard apprehended with perfect clearness that domesticated races of animals and plants have been produced by the selection of man and not by favourable surroundings, careful training or cultivation. He believed in the possibility of organic evolution and supported it by excellent arguments which still have the strongest weight to-day. He even recognised the operation of natural selection although he assigned to it a subordinate *rôle*. The most important anticipation is, however, the masterly discussion on the transmission of acquired characters, a discussion in which the distinction between acquired and inherent or congenital characters is clearly drawn, and many of the most difficult cases are fully argued out, the conclusions reached being those independently arrived at by Professor Weismann over half a century later."

to England in 1841, but soon after went to Paris for the purpose of attending lectures there. In October, 1842, he began practice at first in lodgings in College Green, and a year or two afterwards at his father's house, "The Red Lodge," in Park Row. In 1845 he married Miss Mary Ley, who died about five years ago. Four sons and three daughters survive him.

Mr. Prichard was appointed lecturer on Anatomy in the Bristol School in 1843. The museum of the School still contains some preparations which testify to his skill and industry. He became F.R.C.S. in 1849, and in the next year he was elected Surgeon to the Infirmary, a post which he held with much honour for twenty years, when, by the rule of the institution, he was obliged to retire. During the last five years of his lectureship on Anatomy he lectured also on Surgery at the School, work which he began in 1849 and continued till 1864. From 1844 to 1854 he was also Honorary Secretary to the School. For a long period he was Surgeon to the Bristol Eye Dispensary.

The British Medical Association found in Mr. Prichard an active member. Twice at the annual meetings—at Swansea in 1853 and at Bristol in 1863—he was the Surgical Orator. In 1857 he was the President of the Bath and Bristol Branch. When the Association met at Worcester in 1882 he was President of the Surgical section.

Mr. Prichard was greatly interested in the Bristol Medico-Chirurgical Society, which was formed in 1874, and in the session of 1877-78 he occupied the Presidential chair. Its *Journal* received from him several signed and unsigned contributions.

All through life Mr. Prichard was extremely fond of sketching, and had made a large number of water-colours, mostly representing scenes in old Bristol. Even till quite lately he was in the habit at Christmas of sending to many friends card sketches done by himself, and these were always specially valued.

After a long life of singularly good health he was taken on December 11th with symptoms of acute intestinal obstruction, and his condition rapidly became so serious that an operation had to be undertaken for its relief. The abdomen was opened

and an attempt made to find the cause of obstruction. Owing to the extreme distension of the small intestines nothing could be discovered, so an artificial anus was made by fixing a piece of small intestine to the abdominal incision. This was opened after twenty-four hours and gave great relief to all the symptoms, so much so, that in a few days the obstruction, which was probably due to a volvulus, gave way and normal rectal defæcation again became established. The fæcal fistula gave rise to so much irritation and exhaustion, that an operation for its closure was performed two days before his death. This was followed by a recurrence of the original symptoms, and he gradually sank, dying peaceably at midnight on January 5th. In addition to his two sons, Dr. E. Long Fox and Mr. E. C. Board were in constant attendance, while Mr. W. H. Harsant, assisted by Dr. James Swain, performed the operations.

The noble example of uprightness and devotion to work which he has left behind is well described by some of those who were intimately associated with him for long periods, and whose communications which we print below will, we are sure, be read with interest and with profit.

Dr. J. G. SWAYNE writes:

"I am able to give some recollections of Augustin Prichard's early life which may be of interest. He and I were schoolfellows at a new College, the first of its kind in Bristol, which was opened with much *éclat* in 1831. This College was domiciled in a spacious old mansion in Park Row just opposite a venerable house of Elizabethan fame, the 'Red Lodge,' in which Dr. J. C. Prichard lived.

"The urgent need of a higher grade of school in Bristol had long been felt, and the result was that several Bristol citizens did their best to supply the deficiency. It is much to the credit of our profession that several members of it took a leading part in this movement. Amongst them were Dr. J. C. Prichard, then the Senior Physician at the Infirmary; Dr. Andrew Carrick, a canny Scot, who had held the same post and had done a good Clifton practice before the end of last century; my father, Mr. J. C. Swayne, a professional friend of Dr. Prichard, both of

whom were born in 1786; and Dr. Symonds, a rising young physician of much promise, who had lately come to Clifton.

"The masters appointed to the Bristol College were well chosen. Dr. Jerrard, the Principal, was a Fellow of Caius, Cambridge, and an excellent classical scholar. Dr. Butterton, of St. John's, Cambridge, the Vice-Principal, was equally strong in mathematics and was also a good classic. Dr. Butterton was the first to leave. When appointed head-master of a school in the north, he was succeeded by the Rev. J. E. Bromby, whose brother after having been Bishop of Tasmania for many years is now living in Clifton. When Dr. Jerrard followed some little time after, having been made Classical Examiner to the University of London, the managers secured for the classical teaching a scholar of first-rate ability in the person of Francis W. Newman, the brother of John Henry Newman, and he proved to be the best classical tutor we ever had. He did his work so well that he was in a great measure the cause of the extraordinary success of several of the older College pupils at Oxford.

"The year 1831 was a memorable, or rather notorious, one for then the Reform mania was waxing strong and brought a host of troubles to Bristol and its respected Mayor, Mr. Charles Pinney. The unsettled state of affairs acted prejudicially against the newly-born College. It made the moneyed classes shy of investing capital in a new undertaking of the kind. When the expected scholars were shown into a large room to be received by the masters, less than forty boys appeared. This was a poor beginning. At that time I was just over 11 years of age, and was one of the smallest boys present. The biggest, who was a tall pale youth with rather red hair, was Dr. J. C. Prichard's eldest son, James. Dr. Jerrard used to coach him in a room apart from the other boys, for he was there for a special purpose, as he was going to Oxford to try for a scholarship. About two months after this, James Prichard received the warmest congratulations of the Council, masters, and scholars of the Bristol College, for he had gained a good scholarship at Oriel. This was the beginning of his Oxford career, which was one uninterrupted success. He afterwards gained an open Oriel Fellow-

ship and, at his final examination, a first class in Classics and the prize poem for Latin verse. After leaving Oxford he took Holy Orders, and entered upon his clerical duties in places remote from this city, and so I saw but little of him during the rest of his life. He died of consumption in 1848.

"Dr. Prichard's second son, Augustin, was many years younger than his brother James. He was about four months younger than my eldest brother George. I knew him better than any other member of Dr. Prichard's family. After being my fellow-pupil, he was during a long life a very true friend, professional ally, and colleague as lecturer. My brother George and he and I were all present at the opening of the College. During the later years of my school life I saw little of Augustin Prichard, for his father, wishing him to begin his medical education early, especially in the surgical branch of the profession, apprenticed him in 1834, when he was only 16, to his uncle, Mr. J. B. Estlin, a very clever surgeon and oculist. Augustin never showed the same amount of talent for classical literature as his brother James and his younger brother Constantine, and therefore he was not sent to Oxford or Cambridge, neither of which at that time was a very good place for medical and surgical instruction.

"Constantine, the next brother, who was three or four months my junior, and Samuel William Wayte, who is, I think, a few days younger than I am, and who is now living in Clifton, were still at the College when I left at the age of 17. For some time before I left I was in the same class (the first classical) with Constantine and Wayte, but never managed to get ahead of either of them. I had changed places two or three times with Augustin. I found all three most pleasant companions. They were model boys, and nearly always earned the best report of conduct which the Principal could give. Constantine Prichard and Samuel Wayte had been for some time at the top of the first class in classics—the head boys of the College—and were nearly always equal. Constantine besides being very good at his books was very good at play, and was the best cricketer in the College Club. They were both reading hard, and soon went to Oxford to try for a scholarship at Balliol. This was won by

Constantine, but Wayte consoled himself by gaining a scholarship at Trinity. When they went up for the final examination, Constantine took a first class in classics and gained the English Prize Essay, but Wayte outstripped his former opponent by taking a double first. He told me that he owed his success in mathematics chiefly to the coaching he had received from the Rev. J. E. Bromby. Wayte became a Fellow of Trinity and settled down into the quiet life of a College Don and Fellow Residentiary, enjoying his *otium cum dignitate* till he attained the higher honour of becoming one of the heads of houses about 1867, when he was elected President of Trinity. This office he held for rather more than ten years, when he resigned and came to Clifton in order to be nearer to his father, who was now well advanced in years. Constantine Prichard, a few years after taking his degree, was ordained and had a living in Rutlandshire. In 1869 he died from the same complaint that had proved fatal to his brother James, and left a widow and family.

"The details of Augustin's movements immediately after he left school are admirably given by himself in a clever and amusing little book which, under the title of *A few Medical and Surgical Reminiscences*, he published about two years ago, and of which a sequel was in the press at the time of his death.

"Of his younger brothers I am not able to say much. Theodore went to Oxford after being at the same school, but he had scarcely finished his career there, taking a second class in classics, when he died at the age of 24. Iltudus became an officer in the Indian Army, and was present at the battles of Chillianwallah and Gujerat. After the Mutiny was over he and his younger brother Albert became joint editors of an Indian newspaper. Iltudus died in 1874, and Albert came back to England, and is now living in the neighbourhood of London.

"As I have said so much about the school at which I received my early education, it would be unpardonable if I omitted to mention the coming of a stout muscular youth with a florid complexion, who was a perfect mathematical genius, and who is now known as Sir George Gabriel Stokes, Bart., F.R.S., D.C.L., LL.D. He was born August 13th, 1819, and educated first at a school in Dublin. After he left the Bristol College he went

to Cambridge, where he was Senior Wrangler in 1841. In 1869 he was President of the British Association, and on the retirement of Prof. Huxley in 1885 he became President of the Royal Society. In 1887 he was elected M.P. for Cambridge University.

"I am proud of having been educated at a school that could send to Oxford and Cambridge men who have been so crowned with honours as the Prichards, Wayte, and Stokes. And yet the College that produced such marvellous results lived only about 11 years. Dr. Gray, the much respected Bishop of Bristol, and many of the clergy, were opposed to it on the ground that the sons of Nonconformists were allowed to attend the School and not receive the religious instruction provided for Churchmen. In *The Annals of Bristol in the Nineteenth Century* Mr. Latimer well sums up the history of this Bristol College, and of the Bishop's College, which was intended to supersede it.

"It will have been seen from what I have said that Augustin Prichard belonged to a family intellectually far above the average. His father's erudition impressed me at my first interview with him, when I was about 15 years of age. My grandfather, Dr. Griffiths, had retired from practice and was living at Westbury. One Saturday half-holiday when I had walked over there Dr. Prichard arrived, and drove me back in his carriage. He asked me what Latin and Greek we were doing at the College. I mentioned amongst others the *Clouds* of Aristophanes, and referred to the very long words it contained. He asked me to quote one, and I gave *σφραγῖδ-ονυχ-αργο-κομήτης*. He made me give him all the derivations of this compound word, and when I came to grief over one he corrected me, and quoted not only many other of the long words, but also several passages from the comedy. In fact, he seemed to know the whole play by heart.

"It must have been to him a profound and lasting pleasure to contemplate his large family growing up examples of conduct which their preceptor Dr. Jerrard would have described as 'Perfectly unexceptionable.' Although he had to suffer the inexpressible grief of losing some of his sons early in life, yet he must have had the great consolation of knowing how much of

those lives, alas! too short, had been devoted to the service of God and the good of mankind.

"Not least of them in usefulness was Augustin, who after a life of nearly eighty years has left the world richer than he found it, and by his consistent rectitude, his honourable relation towards all those with whom he was brought in contact, and his devotion to his special work, has left to younger men an example which they will do well to follow."

Mr. ALEXANDER WAUGH writes:

"All who knew Augustin Prichard have sustained a great loss by his death. He possessed an unrivalled personality and a tenderness of heart, combined with great force of character and determination, which could only be fully realised by a long and personal intimacy.

"I remember, as if it was only yesterday, when I first saw him in the autumn of 1859, the occasion being an interview previous to the signing of the apprenticeship deeds which bound me to him for three years. I remember the awe inspired by meeting the great surgeon, which was not lessened by the seemingly stern manner with which he received me. On handing him my testimonials from college, he remarked: 'I shall judge myself; if you work well I will look after you, if you don't I shall not.'

"As a master he was most particular as to punctuality, and I think I see him now striding down Park Street every Sunday morning on his way to the Eye Dispensary, which he reached punctually as the clock struck nine, and looked back to see if I were close at hand. He was particularly attracted to ophthalmology, and it was a treat to see him operate on double cataract, with his right and left hand alternately, and the results were persistently good.

"As a dresser under him for three years, I had ample opportunity of seeing his work. He was great on dressings after operations, and enveloped a stump in numerous layers, always commencing with the simple dressing ointment 'spread thick.' In 1860 he began what was really the commencement of antiseptic surgery by dressing all wounds with the compound tinc-

ture of benzoin, and the results from this treatment were very good, especially in lacerated wounds of the hand. I carried out for him the treatment of carbuncle with potassa fusa, and the results were most satisfactory. The part was frozen first with a mixture of ice and salt, and then the potash was applied freely and made a slough, according to the size of the patch. He made this treatment of carbuncle the substance of his address in surgery at the annual meeting of the British Medical Association in Bristol, in 1863. He was a very successful operator in stone cases. After its introduction he invariably performed Allarton's operation, and invented the straps for this operation.

"Apart from his profession, he was a very well read man, a good classical scholar, and an excellent draughtsman. In politics he was a staunch Conservative, and never missed the dinner of his party on Colston Day. As a friend he was most faithful, and it is impossible to think of him as an enemy to anyone. As a consultant he was the soul of honour, and it was always a great pleasure and privilege to be associated with him in the treatment of a case. His opinion was always a decided one, and his manner commanded respect and faith."

Mr. CHARLES RANDOLPH writes:

"I was one of Mr. Prichard's last dressers at the Bristol Royal Infirmary, and very sorry we were when the twenty years' service came to an end and we had to say good-bye to our old master. As a parting present he gave us each a copy of his *Ten Years of Operative Surgery*, a book full of interest, and from which I have since derived much practical information. We were all fond of Prichard, and used to wait for him in the lobby outside the Porter's room, and when the pair of black horses, driven by his old coachman, himself a well-known character, deposited their master at the foot of the steps, we were always glad to see him.

"He always greeted his students with a silent nod, and a wonderful nod was that nod of Prichard's—it carried with it a fatherly feeling that words could not express. He was a man of few words, never irritable, very kind to all with whom he had

to do, free from all fads, thoroughly practical in his teaching and practice, and beloved by students and patients alike.

"Had there been a capital operation the day before, or any patient about whom he was more than usually anxious, his first words were (calling the dresser who had charge of the case): 'So-and-so, how is that man?' For I believe he had as much affection for every hospital patient, and suffered as much personal anxiety on their behalf as he did for his best private patient. He always had a cool head and a steady hand, and was a very careful operator, though when circumstances required it he would finish an operation with great rapidity. He was generally anxious to avoid the prolonged administration of chloroform. I do not know whether he ever had an accident in his surgical practice with anæsthetics, but I know he did not love them very much, and I have seen him cast many an enquiring glance at the patient to satisfy himself that all was right."

Dr. E. Long Fox writes:

"My intimacy with Mr. Augustin Prichard began more than forty years ago. He was then quite the leading surgeon and the best operator in Bristol, and had a deservedly high reputation in the treatment of diseases of the eye. Associated with him all these years on the Infirmary staff, I can speak of him as a most affectionate friend, wise and kind and tender. For twenty years we worked together as colleagues in caring for the health of Clifton College, and no institution in England ever had a more efficient surgeon than he was. Others will speak of his operations as surgeon with more effect than I can; but I have often seen him at work, and his skill was only equalled by his extreme care that his patients should have every chance of recovery.

"He was especially a strong colleague, devoted to his work, with a very real love for the Infirmary, anxious to keep the medical school at a high level, learned in many directions, taking a high view of life, and of his duty in life.

"His tenderness to children, and the confidence they had in him, was a thing to see; and as I lived close to him for some years, there were daily opportunities of seeing how he encouraged and even shared the fun of his family.

"He was perhaps rather a shy man; but those whom he allowed to know him well found personified in his life, duty, honour, skill, and a sweet homely kindliness based on the deepest foundations."

Dr. W. J. FYFFE writes:

"In September, 1882, I was appointed Physician to Clifton College. At that time Mr. Prichard had been twenty years surgeon to the school, and I shall always remember with gratitude the cordial assistance he gave me on my first undertaking duties which were entirely new to me.

"His long experience of life, his sound judgment and strong common-sense, and his deep loyalty to the College which he had seen growing with marvellous strides, made Mr. Prichard more than a professional colleague — I found him to be a tower of strength at every turn.

"In every difficult or anxious case occurring in the school he was ever ready to give me the assistance of his rich and matured experience; for although his great reputation was built mainly, I suppose, on his profound surgical knowledge, he was equally at home as a consultant in medical cases.

"But it was not alone in professional questions that Mr. Prichard proved himself to be so valuable a colleague. It was evidenced still more in the strength of his personality. The tone of his character, his high sense of honour and morality, made him a man to be relied on in any matter of doubt or difficulty, while his genuine kindness of heart, his sympathy with the young and ardent life with which we were surrounded, coupled with his long experience and knowledge, established that confidence between himself and the members of the school and its governing authorities which made the wheels of our professional life in Clifton College run smoothly and without friction. He retired from this branch of his work in 1890, carrying with him the respect and regard of all connected with the College which he had faithfully served for thirty years.

"His professional intercourse with me ripened into a warm friendship, which terminated only with his life."

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[1] These cases are also printed, with letters referring to them, in Allarton's *Median Lithotomy*, 1863, a book which was dedicated to Augustin Prichard and John Joseph Hadley "in acknowledgment of the important services they have rendered to the cause of humanity by their persistent and successful efforts to substitute Modern Median Lithotomy for the barbarous and fatal Operation in general use." Allarton was highly delighted with "the philosophic spirit displayed by the Bristol surgeons" in the consideration of his operation. He prints also letters and cases by Mr. Ralph M. Bernard, Mr. W. Michell Clarke, Mr. Thomas Green, Mr. John Harrison, and Mr. Henry A. Hore, all of whom were Bristol surgeons.

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THE TREATMENT OF ENTERIC FEVER.[1]

BY

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THE proper treatment of a fever which, as in the case of enteric fever, is due to a specific organism consists in the administration of some substance which will destroy or check the growth of the organism, and neutralise or render inert its toxic products

[1] Read at the meeting of the Bristol Medico-Chirurgical Society, on December 8th, 1897.

when they have already gained entrance to the system; but unfortunately we are not at present in possession of such a remedy, although the progress on these lines that has recently been accomplished in dealing with some other of the specific fevers, and the efforts already made in enteric fever itself, lead us to hope that we may have one in the near future. Then there will be no scope for discussion on the treatment of enteric fever, or only the very limited one afforded by the investigation of the best mode of administration of the therapeutic agent.[1]

Failing true specific treatment, our efforts must then at present be concerned, since we cannot meet and destroy the virus by its proper antidote, with the best means of sustaining the patient's strength, of increasing and maintaining his powers of resistance against the toxic products absorbed from the intestine; of reducing fever when this is excessive in itself; of hindering the fermentative processes going on in the intestine, and thus preventing as far as possible the absorption of poisonous products which can so readily take place through the broken surface of the ulcerated intestinal wall; and of combating those complications which so frequently arise in the later stages of the disease and are in themselves directly dangerous to life. I propose to deal chiefly with the best means of maintaining the general well-being, of treating fever, of preventing excessive fermentation processes in the intestines, and of dealing with the most serious complications.

With regard to the general management of the patient and the hygienic measures to be adopted I need say little. Absolute rest with a fluid, easily assimilable, and nourishing diet are of course essential. Milk, which may require to be modified in different ways to suit individual patients, will be generally accepted as the best food, with the addition of barley-water, beef-tea, and meat-extracts; I allow in addition the beaten up

[1] With regard to the prophylaxis of enteric fever attempts have been made by Wright and Semple and Pfeiffer and Kolle to "vaccinate" against enteric fever by injections of emulsions of Agar cultures of typhoid bacilli, in which the bacilli have been killed by heating to 60° C for five minutes, based on the view that Widal's serum-reaction is a sign of immunity. The process is free from risk, but is still on its trial.

yolk of an egg, once or twice in the twenty-four hours, but I think that the use of more solid food, which has been recently advocated in order to obviate the extreme weakness of the late periods of the illness and to shorten the period of convalescence, is not at all advisable. It must largely increase the risk of perforation and hemorrhage, those two most formidable complications.

As to the use of alcohol, the guide to its administration is to be found in the state of the pulse. Alcohol should be given freely when there is any sign of heart-failure, reducing or dropping the dose again when the threatening symptoms are averted. It is indicated in states of quiet delirium, when collapse is threatened, and in insomnia; a sufficient dose of alcohol at bed-time often ensures a good night. It is also of service in the apyrexial interval before solid food can be allowed, as it mitigates to some extent the pangs of hunger, besides being a useful stimulant at a time when the action of the heart is often weak.

Perhaps the chief differences of opinion lie in the estimation of the relative advantages of the expectant, antipyretic, and antiseptic methods of treatment, or of the combination of the two latter. Taking first of all antipyretic treatment, it is to be borne in mind that in treating fever we deal only with a symptom and not with the disease, and that a certain degree of pyrexia is considered by many to be not only not injurious, but beneficial to the organism in hindering the growth and development of the virus.[1] But although opinions may differ as to the

[1] The *Practitioner*, 1897, lix. 625, quotes some interesting experiments on this subject which have recently been made. Loewy and Richter (*Arch. f. path. Anat.* [etc.], 1896, cxlv. 49) raised the temperature of rabbits, by puncture of the heat-regulating centre in the corpus striatum, sometimes as high as 107.5° F. The temperature remained high for months, or if it fell, could be raised again by a fresh puncture, and the rabbits were well in other respects. They were inoculated with pneumococci and with the organisms of fowl-cholera, swine-erysipelas and diphtheria, and the course of these infections was always favourably influenced. None of the animals died sooner than the control animals, and some survived what should have been a fatal dose. Fischl (*Prag. med. Wchnschr.*, 1897, xxii. 49, 63) on the other hand found that when the temperature of rabbits was artificially lowered to 10° C. they became more susceptible to injections of cultures of pneumococci and died more readily than the control animals.

utility of reducing pyrexia as an end in itself, it is generally held that a long-continued high temperature is injurious to the organism, and this view is based on the *post-mortem* changes found in the organs as a consequence of persistent high fever, which therefore calls for active interference. What mode should this interference take? "The researches of Zuntz show conclusively that the only reflex apparatus for regulating temperature *which is always at work* is that which governs the loss of heat at the surface."[1] This would indicate that the best and safest method of reducing pyrexia is that of abstracting heat from the surface by the application of cold, and clinically this is conclusively shown by the good effect of cold baths in hyperpyrexia.

The use of antipyretic drugs to reduce fever, phenacetin, kairin, antifebrin, antipyrin, *et hoc genus omne*, from which a few years ago so much was anticipated, but which has now been practically given up, is fraught with danger, because of their depressing action on the nervous system and the circulation, and because of the reduction of the flow of urine and consequent elimination of toxic products; whilst their effect on the temperature is often to lower it too suddenly, and also to be too transient. The mortality of cases in which treatment by these antipyretic drugs is carried out is from 12 to 16 per cent., that of cases treated by cold baths 6 to 8 per cent.; a result which speaks for itself.

If then it is allowed that application of cold to the surface is the best measure to take for reduction of fever, how can it be most effectually carried out? There is no doubt that by far the most effectual method is the cold bath treatment. Now in employing cold baths we are not open to the reproach of treating merely the symptom, pyrexia; for Roque and Weil claim to have shown that in "typhoid fever left to itself the toxic products manufactured by the bacillus and organism are eliminated in part during the illness. The urotoxic coefficient is double the normal, but this elimination is incomplete and it is only completed during convalescence, for the hypertoxicity continues

[1] Burdon-Sanderson in *A System of Medicine*, edited by T. Clifford Allbutt, 1896, vol. i., p. 159.

for four or five weeks after the cessation of the fever. In typhoid fever treated by cold baths the elimination of toxic products is enormous during the illness. The urotoxic coefficient is five or six times the normal. The hypertoxicity diminishes as the general symptoms mend and as the temperature falls, so that when the period of pyrexia [ends] and convalescence sets in the elimination of toxins has ceased."[1]

Further, apart from the question of treating pyrexia, the advantages claimed for the bath, and, so far as my experience goes, justly claimed, are[2] that (1) the intellect becomes clearer, the stupor lessens and the muscular twitchings disappear; (2) a general tonic action on the nervous system and particularly on the heart; (3) the insomnia is lessened, the patient usually falling asleep after each bath; and last and most important, the mortality is reduced. Thus Dr. Dreschfeld quotes:[3]

Drasche (Vienna) as finding a reduction from	16.2%	to	9.3%	mortality.
Tripier and Bouveret (Lyon)	25.0%	,,	7.5%	,,
Osler (Baltimore)	21.8%	,,	7.4%	,,
Thompson (New York)	19.0%	,,	7.0%	,,
Vogl (Munich Garrison) from 1841–1860 mortality	21.0%	expectant treatment.		
1860–1875 ,,	15.2%	*partial* bath	,,	
1875–1882 ,,	6.5%	bath treatment.		

Dr. F. E. Hare[4] gives the following striking statistics of the cold bath treatment of enteric fever at the Brisbane Hospital: The mortality was lowered from 14.5 per cent. to 7.5 per cent. The number of patients was 1,902. Mortality under bath treatment—

From perforation, 2.9%.	Before bath treatment,	2.9%.	
,, hemorrhage, 1.2%.	,,	,,	1.88%.
,, other causes, 3.4%.	,,	,,	9.73%.

The death-rate per number of patients affected with enteric fever is still for England the same that Murchison gives, 17 per cent.;[5] at a large London hospital it was 26 per cent., 12 per cent., and 11.2 per cent. for the last three years respectively.

[1] *The Means by which the Temperature of the Body is Maintained in Health and Disease*, by W. Hale White, 1897, p. 73.

[2] *The Principles and Practice of Medicine*, by W. Osler, 1892, p. 35.

[3] *A System of Medicine*, edited by T. Clifford Allbutt, 1896, vol. i., p. 845.

[4] *Practitioner*, 1897, lix. 254. [5] Dreschfeld, *loc. cit.*

Dr. Dreschfeld concludes that the evidence appears to be conclusive that the hydropathic treatment strictly carried out has considerably lessened the mortality; and if I bring forward facts already familiar, my excuse must be that in view of this lowered mortality the bath treatment has not sufficiently come into use in England. I do not think the bath necessary for very mild cases in which the highest range of temperature is from 102° to 103°: for these, sponging is sufficient. I began to employ the bath treatment systematically about two and a half years ago in consequence of the favourable reports published of it, and of the fact that it is difficult to reduce the temperature sufficiently by sponging, and that the effect produced does not as a rule last long. Before this I employed cold sponging in all my cases, sponging being carried out every four to five hours as a matter of routine, except where the case was a very mild one, when it was done less often. In all others than mild cases the bath is employed; the advantages over sponging are: (1) it has greater and more prolonged effect; (2) the temperature can always be reduced by it, whereas sponging may fail; (3) the beneficial effect on the nervous and vascular systems is much more marked; (4) if properly carried out it does not necessarily involve more movement of the patient.

This last statement, which is obviously one of practical importance, may seem unlikely; and to ensure the bath being properly given with the least possible movement of the patient, if he is an adult of about the average weight, three persons will be required to lift him into the bath: if the patient is very light, two nurses can easily lift him in and out. Several times I found that the temperature did not fall in the bath, and once or twice even went on rising; but, on taking the temperature half an hour afterwards, it had invariably fallen. On only one occasion the bath failed to reduce a high temperature of 105°, and then the time of fifteen minutes was not exceeded on account of the patient's pulse being very weak. On one occasion only some collapse was produced; but then the patient was kept in the bath too long. The effect on the pulse when this is very rapid and feeble is, as a rule, good, the pulse becoming fuller and slower afterwards. I need not enter into

the details of carrying out the bath treatment, as they are now well known. The bath seems especially valuable in those cases in the third and fourth week in which the temperature shows a decided tendency to rise and to remain at a high level; the effect, in cases with pronounced nervous phenomena, and with insomnia, and as said above, on the circulatory system is, as a rule, very satisfactory. In any case of enteric fever with a high temperature range, I should feel that without the bath the best was not being done for the patient. If it could not be carried out, I think sponging in ice-cold water or an ice pack is the most efficient substitute. Another measure, but less efficient, is the suspending of small pails of ice from a cradle with the patient lightly covered. The most important contra-indications of the bath are hemorrhage in the later stages, peritonitis, perforation, and possibly myocarditis. Neither pneumonia nor nephritis precludes its use. An interesting case of enteric fever with the latter complication was recently published,[1] in which Dr. Tyson showed that the amount of urine and quantity of urea excreted increased under the use of cold baths.

On the other hand, it is useless to deny that there are considerable difficulties in carrying out the bath treatment, especially when the patient is a large, heavy person. In institutions it is more easily carried out than in private, although in the houses of the well-to-do where one has plenty of assistance it can be managed without much difficulty. One objection is the great dislike that many patients have of it, the dread that it may excite in a very nervous patient may have a prejudicial effect on the course of the illness and prevent its employment. I have had patients, however, who liked it, because they felt refreshed by it. I have heard of a few cases in which the use of the bath was discontinued on account of its being followed by depression of the circulation and excessive cyanosis: but I have not met with any instance myself in which, when carefully carried out, the effect on the heart and circulation was otherwise than beneficial; and the absence of dicrotism in the pulse is noticeable in cases treated

[1] *Am. J. M. Sc.*, 1897, cxiv. 290.

on this plan. The improvement in patients who are lying in a state of stupor or semi-coma is also remarkable, and not attained by other modes of treatment. Lastly, it is of great advantage to have a nurse who has had experience in carrying out the bath treatment: this is, in my opinion, a very important point.

I believe that a further means of treatment of value lies in the administration of intestinal antiseptics. Although we cannot expect by the use of intestinal antiseptics to destroy the typhoid bacilli which, by the time treatment has begun, have already entered the intestinal wall, and reached the glands and other internal organs, we may hope to hinder the action of other organisms in the intestinal contents, whose growth is favoured during the course of enteric fever, and thereby to diminish fermentative action, undue distension of intestines from products of fermentation, and to neutralise or hinder the absorption of the poisonous products through the ulcerated surface.

Under this head I include the administration of calomel, a measure of undoubted value in the early stages. If a case is seen before the seventh day it is well to begin treatment for two or three nights in succession with a dose of gr. iij.—gr. v. of calomel. It has been claimed that the course of the fever is thus rendered milder and the duration shorter. Such a dose will usually have a mild purgative action, and thus get rid of a certain amount of toxic material, and is in addition a powerful antiseptic, for it has been shown experimentally that calomel kills bacteria, hinders the butyric acid fermentation and the formation of indol and skatol, the products of decomposition in the intestines. But for continued use some other substance must be sought, which, to be an efficient antiseptic, and at the same time innocuous to the patient, should have the following properties: It should hinder the development of bacteria and neutralise their products, and at the same time not interfere with the digestion of food: it should be insoluble, so that it will not be absorbed, and thus pass more or less unchanged through the alimentary canal, so as to exert its antiseptic action throughout the greater part of it. There is no substance known at present which fulfils all these indications; but of

those that we have I believe the naphthols most nearly do so. They are nearly insoluble in water, and have at any rate no injurious effect on the organism. In a former paper[1] I showed that although naphthol β in a proportion as large as would be present in the stomach during its medicinal administration delayed the digestion of meat, it had no effect on the digestion of milk by artificial gastric juice, and would therefore not be prejudicial in this respect in the treatment of typhoid fever.

Drs. N. Surveyor and Vaughan Harley state[2] with regard to the antiseptic power of β-naphthol, from test-tube experiments, that both β-naphthol and bismuth subnitrate have the power of preventing or hindering the growth of various micro-organisms, and β-naphthol is the stronger of the two in some cases; the safest proportion for β-naphthol being 8—1000, and for bismuth subnitrate 10—1000. Further experiments on the number of colonies present in different parts of the intestines of dogs fed on the same diet showed that bismuth subnitrate is more powerful as a germicide than β-naphthol when large doses are used, but internally β-naphthol appears to act better than bismuth subnitrate. The reason for this discrepancy they find in the fact that although the latter is the stronger antiseptic, its value is lowered on account of its constipating property.

Mr. F. W. Stoddart kindly made some plate cultivations for me from the stools of patients with enteric fever who were being treated by hydronaphthol and bismuth β-naphthol. Although from the complicated nature of the conditions present it is impossible to draw any conclusions from the number of colonies present, which were enormous, there was one marked difference from stools of enteric fever patients not treated by antiseptics. This difference lay in the absence of colonies of liquefying organisms, which did not appear for fifteen days in one case. Mr. Stoddart tells me that these liquefying organisms are the most sensitive to the action of antiseptic agents, and so far as it goes this affords evidence that the naphthols have some antiseptic action in the intestinal contents. One case was

[1] *Practitioner*, 1890, xlv. 1.

[2] "The Action of Beta-Naphthol and Bismuth Subnitrate as Intestinal Antiseptics," *Brit. M. J.*, 1895, ii. 1483.

treated by baths, the other not; there was no obvious difference between the character of the cultivations.

If any continuous efficient intestinal antisepsis is to be produced, the dose must be frequently given in order to keep up a constant effect: I usually give gr. iii.—v. of bismuth β-naphthol or hydronaphthol every 2½ to 3 hours, day and night. Unfortunately the naphthols leave a pungent after-taste; this is least with bismuth β-naphthol: the dose is given floated out on a little milk. Clinical evidence seems to show that bismuth β-naphthol is the most useful, it has very little taste and is the most effective in checking diarrhœa. Under its action the stools lose their offensive odour and become dark in colour. The diarrhœa of enteric fever is soon checked by its administration, but if it should continue a very efficient combination is formed by the addition to each dose of gr. i.—gr. ii. of Dover's powder. Besides the marked effect on diarrhœa and odour of the stools, hydronaphthol and bismuth β-naphthol have a most important action in preventing excessive abdominal distension; in fact, this symptom, which under former methods of treatment was often so troublesome, is as a general rule absent when these antiseptics are given. This seems to me an important result and a considerable element in the successful management of enteric fever, for excessive distension is dangerous in many ways. First, by favouring the occurrence of the most formidable and fatal complication, perforation of the intestine, which according to Murchison occurs in nearly one-fifth of the fatal cases, and 1 in 33 of all cases. Then when the heart's action is weak it must be further embarrassed and the descent of the diaphragm impeded by the pressure from over-distended intestines.

In my former paper,[1] besides the above advantages, I further claimed for the use of the naphthols that the tongue remains cleaner, relapses are less frequent, the duration of the disease is shorter, and infection to others less probable. More extended experience has, however, shown that with the exception of the tongue being cleaner, no advantage in the other respects is obtained over other methods of treatment.

[1] *Loc. cit.*

Other antiseptics that have been advocated are carbolic acid, liq. hydrarg. perchlor., salol, betol, benzonaphthol, and chlorine. It is difficult to use the first two in sufficient doses without running the risk of producing toxic effects. Salol is efficient, but has the disadvantage of giving rise in the intestine to salicylic acid, which passes out by the kidneys, and is probably irritating, and may be injurious to them when excreted in large doses for some time. Benzonaphthol seems to me less useful than the others.

It is difficult to form an estimate of the effect of the antiseptic treatment on the mortality. Dr. Dreschfeld states[1] that at the Monsall Fever Hospital, where the mean mortality is about 17 per cent., the mortality fell during one year when this treatment was extensively used to 13 per cent.

With regard to the treatment of special symptoms or complications a few words may be said. Small doses of phenacetin and caffeine were found to be very efficacious in relieving the headache of the early stage when this was severe. When there is much delirium the application of cold water to the head by means of Leiter's tubes is often effectual: an increase in the amount of stimulant taken is generally necessary, and a dose of morphia or chloral and bromide may be required.

The treatment of abdominal distension and of diarrhœa has been already referred to: should the latter not be controlled by the measures there recommended, a starch and opium enema generally stops it. For constipation I have always found small enemata of soap and water, or of soap and water mixed with olive oil, sufficient. Insomnia is generally relieved by bathing or an extra dose of stimulant at night; if more is required, a dose of morphia is in my experience the best remedy. Close attention to the state of the heart and pulse is most important in the later stages of the fever: should any threatening of heart-failure appear, the patient should at once be put upon digitalis; and if evidence of heart-failure is actually present, hypodermic injections of strychnine are the most effectual remedy. Caffeine is also extremely valuable in this condition, it may be given by the mouth, or in case of pressing need injected subcutaneously.

[1] *Loc. cit.*, p. 846.

Caffeine and strychnine may both be continued for some time till the danger is past with beneficial effects. I have also found hypodermic injections of spartein sulphate (gr. ½) of great service when one wished to produce a rapid effect upon the heart. Of course when digitalis is given for any time its effects need to be carefully watched. For hemorrhage, besides the ordinary measures in the way of regulation of food, application of ice to the abdomen, ice to suck, and administration of morphia, turpentine in capsule in doses of 10—20 minims every 4 hours has given me good results, or lead and opium may be administered. If the post-hemorrhagic anæmia is extreme, subcutaneous or intravenous injections of saline fluid may be required. One boy, in whom after a large hemorrhage in the first week the extremely anæmic condition gave rise to anxiety, seemed to derive benefit from marrol, a preparation of the red marrow of the ox.

I may perhaps give a brief account of the cases under my care, though the number is not a large one, since March, 1893, which were treated on the above plan.

The number of cases is 70, of these about 30 were treated before I began to use the bath. In these cold sponging was carried out every 4 to 6 hours, except in the mild cases, when it was done less often. Of the others, sponging was resorted to in very mild, the bath treatment in the moderate and severe, cases. The cases were of all grades of severity, as is roughly shown by the temperature records: in 41 cases the temperature at some time exceeded 104°, in 15 it reached 105°, in 4 106°, and in 1 107°: of the last 5, 4 recovered.

I have omitted 3 fatal cases; namely, one patient who had been ill three weeks before entering the Hospital and in whom perforation occurred the day after admission, another who was also the victim of advanced pulmonary tuberculosis, and a third who died of diphtheria when apparently safely through the attack of typhoid. On the other hand, I have included a patient who died of hemorrhage four days after admission and had been ill outside the Hospital for 21 days with insufficient attendance; the other fatal case of hemorrhage was also ill with fever a fortnight before he came into the Hospital, and, further, several

of the patients had been ill for periods varying from 10—21 days before admission, during which time they had either been getting about, or had been inefficiently nursed, circumstances which materially add to the gravity of the prognosis.

Of these 70 cases, 5 died,—2, mentioned above, of hemorrhage, 2 of perforation, 1 during a severe relapse in the sixth week of a protracted attack, and the fifth of heart-failure: this last was a very bad case, the patient being admitted in a state of violent delirium with large subcutaneous hemorrhagic extravasations on the right buttock and both heels, and a petechial eruption on the skin.

The mortality is thus 7.1 per cent.: the duration of pyrexia in Hospital was 17 days; there was diarrhœa in 40 cases; hemorrhage in 6, which was fatal in 2; a true relapse occurred in 9 cases, the average duration was 13½ days; there was lobar pneumonia in 2 cases; thrombosis of the left femoral vein in 1, and of both femoral veins in another case.

It seems to me that until we have at our disposal a remedy which is capable of destroying the typhoid bacillus and neutralising its toxic products, no form of treatment is likely to reduce the death-rate below 6 or 8 per cent. in a fever which runs such a long course as enteric fever, exposes the patient to so many and such formidable complications, and exercises so great a drain on the patient's strength, and that the combined treatment by some form of intestinal antiseptic—innocuous to the patient in other ways—and by the employment of cold baths is at present the best available one. The low mortality now an established fact for the bath treatment is, in comparison with the results of other methods of treatment, a sufficient argument in its favour. Lastly, there is a striking improvement in the appearance of the patient treated by intestinal antiseptics and baths: the "typhoid aspect" is far more seldom seen, and never in so pronounced a degree as under the "expectant" plan; the pulse is better, with less tendency to dicrotism; the tongue cleans early and remains moist; there is less of the low, muttering delirium and of the trembling and twitching of the muscles; whilst the mind remains clearer, and sleep is more refreshing. In the absence of a specific remedy, all measures

must fail in a certain proportion of cases; the object must be to make this unavoidable percentage of deaths as low as possible, and I believe that treatment directed on the lines above described is that which at present conduces most to this result.

In the discussion which followed Dr. Clarke's paper, Dr. SHINGLETON SMITH said a mortality of 7.1 per cent. was remarkably good for a long series of hospital cases. He had himself reported a mortality of 8.2 per cent. in a series of 195 cases. As regards antipyretic treatment, he agreed with Dr. Clarke that the cold bath was most valuable; yet the greater number of mild cases (119 in a series of 176 recoveries) required no antipyretic treatment: of the remainder only a small proportion required the use of the cold bath systematically, but phenacetin in conjunction with sponging would often prevent the necessity for more disagreeable measures. He admitted that we must sacrifice some degree of safety if we do away with the discomforts of systematic bathing. As regards intestinal antiseptics, he concurred in the utility of a few doses of calomel in the first week, but he was bound to adopt the view that "a general antisepsis, a germicidal influence upon bacteriological forms diffusely implanted in lymph tissues throughout the organism, is a vain fancy wholly unsupported by facts, and that the parasite is more resistant to such influences than the host." (Wilson.) He believed that the peptonising of the milk was a much more useful means of preventing and counteracting flatulent distension than any form of intestinal antiseptic, none of which appeared to prevent relapses, although they did something by preventing fermentation and over-distension of the bowel. As regards the treatment of the discharges from the body, he pointed out the necessity for prolonged exposure to the fluid if disinfection is to be adequate, and he thought that the reception of the fæcal discharge into cotton-wool or sawdust and the burning of the product should be carried out, and further, that, inasmuch as typhoid bacilli are frequently present in the urine, some disinfection of this fluid should be systematically adopted. As a result of the recent epidemic he had learned that digitalis must be used with caution, as it seemed to produce its physiological effects much more easily than in cases of pneumonia. He believed that the details of management were of such importance as to determine the life or death of the patient.—Dr. J. G. SWAYNE gave his own experience of enteric fever forty-five years ago, when he was attended by Dr. Symonds and Dr. W. Budd. Dr. Budd attributed it to well-water contaminated by a cesspool between York Place and Richmond Terrace, a place that in previous years had been a *habitat* of enteric fever. The fever set in with severe headache, which was soon relieved by twelve leeches to the temples; after this he took five grains of quinine *ter die*. After three weeks he (Dr. Swayne) began to improve, and left his bed at the end of a month.—Dr. E. MARKHAM SKERRITT believed the external application of cold was the best antipyretic in typhoid fever, yet in some cases phenacetin answered well; and quinine in single large doses of thirty or forty grains had the great advantage of securing a lower range of temperature for a considerable time—perhaps six or eight, or even twelve, hours. While the cold bath would give the best results in some cases, it was his usual practice to employ sponging or wet-packing as sufficiently effectual. The intestinal antiseptic which

he used was hydronaphthol, conveniently given in tabloids, but only in those cases where the abdominal symptoms indicated definite local disturbance. The present epidemic had afforded many examples of absence of diarrhœa, pain, and tenderness and all abnormal abdominal distension; and the routine administration of antiseptics in such cases might lead to the error of attributing to treatment the favourable symptoms that were in reality due to the type of the attack. During the whole of the febrile stage the food should consist only of milk (which might be peptonised), and perhaps eggs beaten up, and beef-tea or some of the liquid preparations of meat. This diet should be adhered to for at least ten days after the temperature became permanently afebrile, and then soft food might be carefully added—no actual solids being allowed until a fortnight of apyrexia had elapsed. Want of care in dieting might induce relapse.—Dr. D. S. DAVIES claimed attention for that part of treatment which related, not to the safety of the patient, but to the safety of others, especially of those in immediate attendance upon the patient, and instanced the by no means infrequent attack of nurses or of students; the observance of an almost exaggerated cleanliness, especially in regard to the hands after attention to the patient, was insisted upon as absolutely necessary for safety, and the provision of ample means in wards or sick rooms for the immediate disinfection of hands or of soiled articles was pointed out to be essential. The choice of one germicide before another he considered of less importance than the care that whatever germicide was used should be in sufficient strength, and should be applied for so long a time as to be able to exert its full chemical destructive action upon each part of the dejection. Not the fæces alone, but the urine, the sputum, and in fact everything discharged from the patient must be dealt with as infective. The perchloride solution, containing half an ounce of perchloride of mercury dissolved in one ounce of crude hydrochloric acid, coloured with five grains of aniline blue, and mixed with three gallons of water (equal to 1 in 1000), might be kept in bulk and mixed as required with advantage, but the true principle of dealing with such infectious discharges was to mix with carbolated sawdust or other absorbent and burn at once, or, where the apparatus was available, to sterilise in a steam sterilising apparatus as designed and used at Newcastle-on-Tyne. In a sewered town, dejecta disinfected by chemicals as above may best be disposed of by throwing down properly constructed drains; but in country districts, if burying was resorted to this should be done with the utmost care, as recent experiments have shown that in unsterilised earth contaminated with refuse the bacilli die down in the winter only to multiply freely in the following summer. The specific infectivity of the stools may be long retained in convalescent patients, *e.g.*, in the milk epidemic of typhoid in Redland in 1879 the stools of a patient sent to a farmhouse during convalescence, discharged into a leaky privy, infected the pump, and thence the milk-supply, and gave rise to a serious outbreak.—Dr. C. STEELE said that, thanks to Dr. William Budd, we know the pathological progress of the disease. He pointed out the necessity for quietude and liquid diet. Tepid sponging he had found to bring down the temperature, accompanied by a sense of great relief, and often sleep. To relieve fever, a few drops of tincture of aconite in a tumblerful of water are highly appreciated by patients, and induce gentle perspiration. Salol he had tried with some benefit; bicarbonate of soda and liquor pancreaticus (Benger) were of great use. For distension of the stomach diastol had proved effective.—Dr. H. WALDO said he admitted that the diet he gives in typhoid fever is more generous than formerly, but it is all fluid. Milk

is the most suitable diet, and it leaves the least residue to form fæces. He allows the yolks of one or two eggs in twenty-four hours, and in the beef-tea or mutton or chicken broth fresh vegetables are boiled *and strained*. Coffee, Savory & Moore's peptonised cocoa and milk, and sometimes tea may be given, and he had never seen any harm arise. This dietary is more nutritious, and offers some variety. Five or six days after the temperature is normal, boiled tripe, or fish, or chicken, with bread, may be given. An initial dose of calomel, based on the view that the bacterial growth is chiefly in the intestine, is quite worthless, as the bacilli are not found in the stools until the end of the second week. They multiply in the intestinal walls, in the mesenteric glands, and in the spleen. If, as in cholera, the bacilli developed and produced the poison in the intestinal contents, there might be some reasonableness in this method. As an antiseptic he preferred chlorine gas dissolved in water, which not only reaches the intestinal lesions, but is absorbed into the blood. One of the best intestinal antiseptics is animal charcoal; it checks diarrhœa and lessens a distended abdomen. As an antipyretic, he strongly believed in baths. He had seen much harm done by antipyretic drugs, as phenacetin, as they depress the heart's action. For intestinal hemorrhage he advocated the use of turpentine in small and frequent doses.

The discussion was resumed on Jan. 12th, 1898.—Dr. C. ELLIOTT thought that the cold bath was the best mode of treatment; but there was one drawback to its use, namely, that it was impossible of general adoption in private practice. He thought the combined use of the wet pack and cold effusion gave equally good results, and was capable of universal application. This method not only reduced the fever, but calmed the nervous system and promoted sleep.—Dr. A. J. HARRISON said that one of the most important considerations was *rest* in bed. In 1868 he saw a large number of cases of a severe hemorrhagic type, and in these dilute nitro-muriatic acid and compound tincture of bark seemed efficacious. Of hypnotics, phenacetin proved very useful sometimes, and in a few desperate cases hypodermic injection of small doses of morphia, guarded by atropine, was probably efficacious in saving the life of the patient. Many mild cases require no drug treatment whatever.—Dr. B. M. H. ROGERS thought that the use of intestinal antiseptics was indicated to arrest if not to prevent the septic condition which was always more or less present in cases of enteric fever. We cannot arrest the growth of the bacillus, or prevent the absorption of the enteric toxin, but by antiseptics we might make the patient's condition more comfortable and prevent some of the complications which arose from the putrefaction of the intestinal contents. His practice was to give an initial dose of calomel and four-hourly doses of salol. Stimulants he reserved for the later stages, when the pulse showed signs of flagging or became intermittent. The use of cold baths was possibly good—Dr. Clarke's statistics showed it to be—but the difficulties in carrying out in private this method of treatment militated against its universal adoption.—Dr. WATSON WILLIAMS, who was unable to be present, sent some notes, in which he said: During the pyrexial period the food should consist mainly of milk, beef-tea, chicken or mutton broth, or beef-jelly. But even during this stage it is possible to introduce a grateful variety in the diet, if the patient be not too ill to appreciate such variation, by allowing a little coffee, milk-shape made with isinglass and flavoured with coffee or vanilla, junket, etc., and I have never seen any harm from allowing Mellin's or Benger's food. If the temperature is ranging low and the tongue is clean and normal, and there is no diarrhœa or tympanites, I have never observed

any harm result from adding beaten eggs, cream, and, as soon as the temperature is normal, very finely minced or pounded chicken to the diet, while the patient's strength has been the better maintained in my experience, so that when a relapse occurs it is better borne. There is good reason to believe that so-called "solid food" in the form of pounded chicken is perfectly fluid long before it reaches the affected portion of the intestines, and that it is certainly as much a fluid as ordinary milk is after ingestion. We are all aware that milk may become converted into large solid masses in the stomach about as indigestible as anything that can be imagined. And when we find that milk is not well borne, we peptonise it or add lime water or barley water. But I have yet to hear it stated that we must give nothing but *peptonised* milk, because it is safer in *some* cases. Some cases so treated will relapse, but unfortunately they relapse no matter how strictly we keep on the so-called side of safety; and in my experience they relapse just as often, but with less strength to cope with a fresh attack and with greater liability to succumb to secondary complications. I do not remember ever having had a case in which relapse could in any way be traced by an unbiassed observer to such diet as I have allowed. Alcohol, and all forms of stimulants, I always withhold till the febrile stage is passed unless the pulse is weak and irregular and the heart flagging, or the patient shows indications of nervous exhaustion. Equally am I averse to the too free exhibition of digitalis or strychnine, and I may add that the more severe the case appears to be, the more anxious am I to defer prescribing, until absolutely necessary, any remedy which acts by using up potential energy, which the patient can ill spare. In dealing with pyrexia, I usually note whether the temperature ranges at 103° F. or 104°, or over, and give directions that the patient is to be sponged with water at about 80° F. when the temperature reaches 103° or 104°, as the case may be. Often enough warm sponging answers just as well by dilating the superficial arterioles and increasing the rate of loss of heat. Cold baths I have abandoned for several years, except for very high temperatures. Cold baths, ice-packing, and cold sponging remove heat by physical means, but they do not lessen the *production* of heat, in other words the disintegration of the tissues, they even tend to increase it. Yet, with the higher range of temperature, especially in some patients, the general condition calls for antipyretic treatment and is materially improved thereby, but cold baths are rarely advisable, I think, unless the temperature exceeds 105° F. I find that I have notified thirty-two cases within the last three months, Excluding five abortive cases and two which passed out of my care before they became severe, twenty-five cases of enteric fever of a more or less ordinary type have all recovered and gone away either well or practically well. But these cases have not been treated by any rule of thumb. Each has been treated on its merits, and certainly I have not adhered to the milk and beef-tea diet that is too much regarded as an axiom in dealing with enteric fever. The several advocates of the routine cold-bath or other antipyretic method; of the intestinal antiseptic method, or of the expectant or *safe* method, will each and all claim to have materially reduced bad complications and relapses and to have obtained the best results. There is indeed an element of truth in their contentions, but I do not feel convinced as to the decided advantage of the cold-bath method with which Dr. Michell Clarke has obtained such very good results, and which are worthy of warm congratulation. — Dr. G. PARKER asked if any value could be placed on Wright's preventive "vaccination," which had already undergone some testing. He

thought the value of baths had been shown by the cases recorded of late years, and especially in the Brisbane records. Still there was a large mortality from perforation and hemorrhage which baths did not touch. Had we any intestinal antiseptics which could prevent this class of deaths? He thought the bath was not primarily valuable for the worst cases. The use of baths was chiefly to promote elimination of toxins, and to cause leucocytosis. If the latter occurred naturally under the influence of typhoid, it is possible that the human organism would be immune against typhoid, but it does not. Hyperpyrexia might be controlled by large doses of quinine, pyrexia itself reduced the multiplication of the bacillus some fifteen per cent., hence the seven lives in a hundred saved by baths were due rather to increased excretion of the poison than to lowered temperature. As to diet, while safety was clearly with liquid, and especially peptonised, food, it might be possible by giving grape sugar to prevent our patients from becoming mere skeletons, for Hale White showed that the great burning up of the proteids of the body might be prevented by its administration, and the proteids shielded by it.—Dr. F. H. EDGEWORTH remarked that whilst the cold-bath treatment in typhoid fever caused great diminution in the mortality, the systematic administration of internal antiseptics had very little influence on the death-rate. One important result of giving antiseptics in typhoid fever was that diarrhœa was checked if present; they often produced constipation. Now, *post-mortem* examination of several of the fatal cases in the recent epidemic showed that, contrary to received opinion, most extensive ulceration of the large intestine might be present. Such a condition might easily result in perforation under the mechanical distension of an enema. It was therefore better, in a case without diarrhœa, to omit antiseptics rather than to administer them and have to employ enemata. In controlling diarrhœa, antiseptics were infinitely preferable to narcotics or astringents. He advocated the use of junket, broken up by a spoon into small fragments, as a food in typhoid fever. Cow's milk, the ordinary diet in typhoid, was apt to coagulate in large masses in the stomach, and these not only mechanically irritated the intestine but were excellent seed-beds for the multiplication of micro-organisms until dissolved by the gastric and intestinal ferments. Such a food as broken-up junket was free from these unavoidable defects of raw or boiled milk, and gave excellent results both as regards gastro-intestinal flatulence and diarrhœa in typhoid fever.—Dr. J. O. SYMES said that the routine cold-bath treatment had been abandoned in the Hospitals of the Metropolitan Asylums Board and in the London Fever Hospital.—Mr. J. EWENS believed it to be absolutely impossible to fully carry out the cold-bath treatment in general country practice, especially amongst the poor. He had found the sulpho-carbolate of sodium useful as an antiseptic in cases where diarrhœa was severe. Blisters (small and repeated) to the abdomen and internal administration of ol. terebinth were useful in tympanites. —In reply, Dr. CLARKE said that speaking generally the discussion had confirmed the views which he had advocated in his paper. He thought the evidence in favour of the cold-bath treatment was very strong, and could not be lightly passed over. At the same time he fully admitted the difficulties which lay in the way of carrying it out and often rendered it impossible; not the least of these was the strong objection which the patients frequently had to the baths, and which in a nervous and excitable patient might render it extremely unwise to persevere with them. He agreed in the opinion expressed by many speakers against a routine treatment of the disease, and by no

means wished to advocate routine treatment, but would modify it according to the indications in each case. At the same time he thought that those who too rigidly followed the "expectant method" were themselves in danger of falling into a routine. With regard to the objection raised by some speakers that antiseptic medication did not combat the specific organism of typhoid, he had been careful to point out that no such result was to be expected from the employment of the antiseptics advocated, but that their usefulness lay in controlling and preventing excessive putrefactive processes in the intestines.

ON SOME DISEASES OCCURRING IN MEN WHO WORKED IN A SEWER.[1]

BY

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DURING the months of July and August last those who lived or passed by St. John's Road, Clifton, were only too conscious that the sewer there was being repaired.

Of the men engaged in the work who fell ill, some were admitted to the Royal Infirmary under my care; I have obtained notes of others from the doctors by whom they were treated, and have thought that a few remarks on the conditions observed may be of interest to the Society, more especially as some of my colleagues and friends have had cases of illness in their practice which were apparently due to the same cause.

The Clifton high-level sewer runs along Alma Road, at a considerable depth underground, across the College Close, to the top of the New Zigzag, and discharges its contents into the Avon at the bottom.

The main sewer receives the smaller one, which runs down St. John's Road. This was found not to be large enough in the lower part of its course, that is to say, in that part of St. John's Road which runs obliquely into Alma Road. So the old drain, which is from sixteen to twenty-five feet underground and one

[1] Read at the Meeting of the Bristol Medico-Chirurgical Society on November 10th, 1897.

foot nine inches by one foot three inches in diameter, was replaced by a new one measuring three feet by two feet. A channel was first excavated, partly by blasting especially in the lower part of the road, partly by removal of made ground. The excavation took place below and to one side of the old sewer, in sewage-soaked ground, for the old bricks were hand-made and somewhat porous, with not very closely-fitting joints. The new sewer was then built in the channel thus made, and the two ends of the old one stopped up.

Now, it is interesting to observe that the excavating and building were carried out by two distinct sets of men—miners and bricklayers; and whilst not one of the four bricklayers was affected, every-one of the eight miners suffered in a greater or less degree. Of these eight miners two had no definite symptoms and did not come under medical observation, though I am told that their appetites failed and they looked ill. The other six were affected more seriously. One had gastric symptoms, one had gastro-intestinal catarrh, two others had gastro-intestinal catarrh followed by jaundice, one had an anomalous form of typhoid fever, and the last had pneumonia followed by jaundice.

The men who had symptoms of gastric or gastro-intestinal catarrh were ill during a few days only, and the cases presented no unusual features. One of the two who suffered from gastro-intestinal catarrh followed by jaundice was under my care in the Royal Infirmary. The gastro-intestinal symptoms, which were ushered in by vomiting and diarrhœa, general pains and fever, subsided within a week, and he was admitted on the tenth day of his illness, complaining of weakness and jaundice only. The jaundice was of moderate degree, the conjunctivæ and skin being of an orange tint. Bile pigments and a trace of albumen were present in the urine. The thoracic and abdominal organs were normal, as far as physical examination went, and neither the spleen nor the liver was enlarged. It is of importance to note that the motions were bile-stained. Considerable muscular weakness and debility were present. The most remarkable feature in the case was that fever was present, the temperature varying between 99° and 100.6° for eleven days.

As it gradually subsided the jaundice grew less, and the bile pigments and albumen disappeared from the urine. The patient gradually recovered and went home in about three weeks. In the other case of gastro-intestinal catarrh followed by jaundice, the symptoms were at the onset similar to those of the one just related, but the jaundice which followed was accompanied by slate-coloured stools, and the fever did not last longer than the intestinal symptoms.

The fifth case was one of typhoid fever; it began suddenly with general pains and a high temperature, which lasted for a week or ten days, to relapse two days later. And with this relapse a rash very like a typhoid one developed; from this time the patient, however, gradually recovered. No certificate of typhoid fever was sent to the Sanitary Authority, as no certain diagnosis was arrived at, but it was thought that in all probability it was an anomalous or disguised typhoid fever. Since then, some two and a-half months after the illness, Dr. Davies kindly tested the patient's blood for me by Widal's reaction. The blood serum was found to give the characteristic clumping in $2\frac{1}{2}$ hours when diluted fifteen times. Taking into consideration the clinical symptoms, and the positive result of Widal's test, it may with some safety be inferred that the man suffered from an anomalous form of typhoid fever.

The sixth and last patient was first taken ill with pneumonia of the base of the right lung, and during convalescence from this he became jaundiced, and but very slowly recovered.

Of the six men, then, who had some definite illness, four had symptoms of either gastric or gastro-intestinal catarrh, and two of these subsequently developed jaundice, one had pneumonia followed by jaundice, and one had typhoid fever.

One of the cases of jaundice following gastro-intestinal catarrh presented somewhat unusual features; viz., its association with fever and absence of evidence of any block in the common bile-duct. Jaundice of itself does not give rise to fever, nor is a heightened temperature present in ordinary so-called catarrhal jaundice. These phenomena point to the supposition that the fever and jaundice were collateral results of the same cause, that they were toxæmic in origin; and this supposition is

strengthened by the fact that concurrently with the symptoms albumen was present in the urine. The late Sir George Johnson showed that sewer-gas poisoning will cause nephritis, and neither was the fever high enough nor the jaundice long enough continued to give rise to albuminuria of itself.

The jaundice which followed the other case of gastro-intestinal catarrh was probably due to some obstruction in the common bile-duct, for the motions were not clay-coloured and, unlike the case just spoken of, the fever did not last longer than the intestinal symptoms.

The fact that jaundice was a sequela of the case of pneumonia is of some interest, for this complication, which occurs in about seven per cent. of cases, is not due to obstruction of the common bile-duct, but is of toxæmic origin. As far as our present knowledge goes, jaundice following pneumonia does not point to a sewer-gas origin, but it is perhaps a little suggestive that one of the two miners who worked in St. John's Road and had no definite illness, suffered a few years ago after working in an especially foul sewer from pneumonia followed by jaundice.

The case of typhoid fever is of especial interest from a clinical point of view, in that the phenomena did not allow of a positive opinion. It is a case in which most valuable evidence was obtained by the application of Widal's test, evidence which clinched the diagnosis.

It is not for me to enter upon the general question of the value and limits in time of Widal's reaction as a test for typhoid fever, but I would remark that a positive result has been found by Tyson in 98 per cent. of cases in which the diagnosis of typhoid fever was arrived at from clinical evidence. And the following striking illustration of the utility of the test may be adduced: In the latter part of July last four children of one family were admitted to the Royal Infirmary. Three undoubtedly had typhoid fever, one having intestinal hemorrhage, and the other two were operated on for perforating intestinal ulcers. All these three gave Widal's reaction. The fourth child, under the care of Dr. Prowse, and afterwards when convalescent, of myself, had a fever which lasted only one week with no symptoms other than that which could be put down to the fever.

Her blood, examined by Dr. Davies, gave a most decided reaction to the test. Such a case, to my mind, establishes the old doctrine that occasionally typhoid fever may be, as used to be said, abortive—running a course of much less than the typical three or more weeks.

Cases of sewer-gas poisoning can be divided, as is well known, into two categories,—those of sudden onset due to asphyxia from sulphuretted hydrogen or deficiency of oxygen, or from both of these causes, and those cases of illness which in all probability are due to infection by micro-organisms of various kinds in sewage. The cases described obviously fall into the latter group.

Work in sewers is not such an unhealthy occupation as might at first sight be supposed, for the air in sewers where the sewage is in movement is not so very impure, and one knows clinically that it is rare for sewer men to come under medical observation for any illness which might in any way be attributed to the nature of their employment.

But if sewage be stagnant and decomposing there is an enormous production of micro-organisms, which may infect the neighbouring atmosphere and be a fruitful cause of disease. And in the particular cases in question it is to be remarked that men, who were accustomed to work in sewers, were taken ill whilst excavating ground which was soaked with decomposing sewage and gave off a most offensive smell. The occurrence presents then no deviation from the usual type. Illness due to sewer-gas poisoning may be of various kinds and severity: general ill-health without any obvious lesion, feverish attacks, tonsillitis, gastro-intestinal affections, and nephritis, are no doubt the commonest. In these workmen it is of interest to note that no case of tonsillitis occurred; though I have been told of a case which arose close to St. John's Road at the time, and which was probably of sewer-gas origin.

The case of toxæmic jaundice following gastro-intestinal catarrh is worthy of note in that it suggests first that jaundice following this complaint may sometimes be of toxæmic origin, that both features are collateral results of one cause, and also that simple jaundice not following gastro-intestinal catarrh, for

which we can so often find no obvious cause, may in a few cases be of toxic and probably of sewer-gas origin. Similarly, if jaundice follow pneumonia, such an origin may, though with little probability of finding it, be at any rate looked for.

None of the family of the man who developed typhoid fever suffered in any way, though he has many children. The occurrence then suggests, whilst it does not prove, that the old sewage was not merely stagnant and decomposing, but also specifically infected with typhoid bacilli.

In conclusion, I must offer my best thanks to Drs. Ormerod, Stevens, Stephenson, and Burroughs for having so kindly given me details of the cases which came under their care.

In the discussion which followed Dr. Edgeworth's paper, Mr. PAUL BUSH mentioned that while the sewer was open he had three cases in Alma Road, all having a temperature of 102° to 103° for seven to ten days, severe form of ulcerated throat in two patients, one had jaundice, and one had albumen in the urine. The three cases occurred in one house, all commenced with gastro-intestinal symptoms; he did not look upon any of them as cases of diphtheria or enteric fever.—Mr. MUNRO SMITH spoke of various cases of illness in the neighbourhood, chiefly taking the form of gastro-intestinal irritation, headaches, sore throats, and rise of temperature.—Mr. HANCOCKE WATHEN remarked that, it is a well-known fact that sore throat, and such allied troubles, are associated with sewer-gas poison. But that a given case was typhoid caused by this sewer-gas did not necessarily need a previous case of that disease. The origination of typhoid *de novo* was held by Murchison, Jenner, and Dyke of Merthyr, and he was quite willing to follow such leading.—Dr. D. S. DAVIES commented on the absence from Dr. Edgeworth's cases of any diphtheria or suspected diphtheria; a result which experience would lead us to expect, but which is much opposed to popular opinion, which generally looks upon sewers and diphtheria as cause and effect.—Dr. B. M. H. ROGERS was of opinion that the infection came more from the disturbance of the saturated soil rather than the smells themselves, for Dr. Haldane had shown that a drain, even in a large city, was in reality a healthy place and remarkably free from micro-organisms.—Dr. A. J. HARRISON considered that the cases described arose from sewage-contaminated ground, and were shown to be amongst men who were navvies and not hardened by practice.—Mr. J. C. HEAVEN was of opinion that the cases mentioned by Dr. Edgeworth were due to the disturbance of sewage-saturated soil rather than to the opening of the sewer itself, and were caused more probably by products of decomposed animal matter, in the form of ptomaines and leucomaines, than by germs, which are generally accepted not to get into air from a moist soil or surface.—In reply, Dr. EDGEWORTH said that he did not accept the view that the cases of illness were due to leucomaines or ptomaines, for such a theory did not account for the case of enteric fever, nor for those of ulcerated throat, that had been mentioned in the discussion.

He thought that they did not arise from the sewer gas in the sewer, but from the excavated earth from around the old sewer, which presented most favourable conditions for multiplication and dissemination of micro-organisms it contained when brought to the surface and allowed to remain in the hot summer sun.

Progress of the Medical Sciences.

MEDICINE.

During the past half-year **typhoid fever** has been brought prominently before the medical profession, and accounts of the origin and spread of epidemics, papers on Widal's reaction, and discussions upon treatment, may have filled the minds of medical men to satiation. There is, however, one feature of typhoid fever at which it may be pardonable to take a passing glance. That feature is **the liability of typhoid fever to give rise to complications** that, owing to their comparative infrequency, run the risk of being ignored. One can understand how such serious complications as intestinal perforation and hemorrhage may throw all others into the background, but one is perhaps hardly prepared to find it stated by a French writer that he finds no mention of lobar pneumonia as a complication of typhoid fever in French text-books, and in journals at his disposal only once[1]. Consolidation of the lungs and other complications may not have forced themselves under our notice, either by their frequency or by the sudden urgency of the symptoms they produce, yet it is important that we should recognise the possibility of their onset.

It was formerly thought that typhoid fever was almost entirely a local disease, and that the general symptoms were due to the absorption of toxins. This is no doubt in great measure true, but it is now known that not only toxins but various micro-organisms find their way in considerable numbers into the blood. The typhoid bacillus itself, although difficult to detect in the blood, obviously enters the circulation, since it can generally be found in the spleen and frequently in the urine. Not only does the typhoid bacillus enter the blood in ordinary cases of typhoid fever, but it may enter and cause death without having given rise to any intestinal lesion, as is shown by recently recorded cases by Cheadle,[2] Goodall,[3] Nicholls and Keenan,[4] and Beatty.[5]

Although not directly in accord with the subject, perhaps

[1] Auché et Carrière, *Arch. clin. de Bordeaux*, 1897, vi. 395.
[2] *Lancet*, 1897, ii. 254. [3] *Ibid.*, 1897, i. 523.
[4] *Montreal M. J.*, 1898, xxvii. 9. [5] *Tr. Roy. Acad. M. Ireland*, 1897, xv. 54.

it may be interesting, in connection with the ulceration or absence of ulceration of the intestines, to refer to a recent case that occurred in the *post-mortem* room of the Bristol Royal Infirmary. In this case the small intestine had almost entirely escaped, one small ulcer only being present; but the **ulceration of the large intestine** was extreme, and extended from the cæcum to the rectum. A few somewhat similar cases are recorded in the London Pathological Society's *Transactions;* it seems, therefore, that although in most people the Peyer's patches and solitary follicles of the small intestine are most vulnerable to the typhoid bacillus, in others they escape, while the solitary follicles of the large intestine suffer. In others again, although both the lymphatic structures of the small and large intestine can resist invasion, the bacillus is able to find entrance to the blood with a fatal result.

Before leaving the subject of ulceration of lymphoid structures, it may be mentioned that it apparently occasionally occurs in one other situation, that is at **the pyloric end of the stomach,** and may possibly be due to the typhoid bacillus or associated organisms attacking the lymphoid follicles there. Charlewood Turner[1] records a small shallow ulcer of the pylorus in typhoid fever, and two similar cases are described in the *post-mortem* records of the Bristol Royal Infirmary. In both of these cases two small ulcers were present at the pylorus, and of one it is stated that recent hemorrhage had apparently taken place from it. Cases of hæmatemesis in typhoid fever are recorded by Green and Galloway,[2] but in the one case of these that ended fatally no ulcer was found.

To return, however, to the presence of the typhoid bacillus, or of the organisms which generally accompany it, in the blood, it must be obvious that their escape into the circulation exposes the individual attacked to the risk of **pathological manifestations in various parts of the body.** Such manifestations may occur, and it is perhaps to be wondered at that they do not occur more often.

Micro-organisms being present in the blood, it is natural first to think of their effect upon **the blood itself.** Thrombosis is the first result that occurs to us; and thrombosis of the femoral vein we know may complicate typhoid fever, resulting in rare cases in pulmonary embolism.[3] In other cases the pulmonary artery may be blocked by a primary thrombosis.[4] A situation almost as serious for thrombosis is in the veins[5] or arteries of the brain giving rise to hemiplegia[6] or other manifestations[7] of a cerebral lesion. *Ante-mortem* clotting may also occur in one of the ventricles of the heart, especially dangerous on the left side on account of the

[1] *Tr. Path. Soc. Lond.*, 1884, xxxv. 208. [2] *Lancet*, 1895, ii. 1498.
[3] Fagge, *Tr. Path. Soc. Lond.*, 1876, xxvii. 70; Saw, *Med. Press & Circ.*, 1897, [cxv.] 453.
[4] Hunter, *Lancet*, 1896, ii. 1459.
[5] Richardson, *J. Nerv. & Ment. Dis.*, 1897, xxiv. 404.
[6] Donkin, *Lancet*, 1892, i. 912. [7] Osler, *Johns Hopkins Hosp. Rep.*, 1895, v. 469.

possibility of cerebral embolism.[1] Probably thrombosis of less serious nature, occurring in situations where it fails to give rise to symptoms, is not uncommon: for example, a division of the renal vein to one kidney was blocked by an *ante-mortem* clot in a recent case at the Bristol Royal Infirmary. Dr. Symes found the bacillus coli commune in this thrombus, and such limited clotting may be due to multiplication of bacilli at one particular spot. The blood, however, may suffer, not only locally but throughout the body. We are all familiar with the increasing pallor of typhoid patients, but may be unaware, as Thayer[2] remarks, "that a post-typhoid anæmia may in some instances become so profound as to be of itself a grave complication of the disease." After referring to previous literature on the subject, Thayer reports two cases—one in a man aged 30 years, another in a man aged 25 years. In the seventh week of the fever the hæmoglobin was about 26 per cent. of the normal in the first case; and below 20 per cent. in the fourth week of the second. Both cases recovered. While speaking of the blood, I may digress again for a moment to refer to a small point in connection with the spleen, an organ intimately associated with blood nutrition. In acute diseases in which micro-organisms find entrance to the blood, it is in the spleen the organisms are most readily found, and there is generally enlargement of that body. The spleen in typhoid fever is no exception to the rule, and to endeavour to detect it by palpation is one of the first impulses of the physician on seeing a probable case. To say, however, that it is constantly enlarged as Dr. Dreschfeld[3] does, appears to be a mistake. In a recent case at the Bristol Royal Infirmary, the spleen weighed only 2 oz., and that in spite of the fact that typhoid bacilli were found in it. It may be further mentioned that of eighteen cases in the *post-mortem* room during recent years, in one the weight was only $4\frac{3}{4}$ oz., and in two only 6 oz. In none of these could the spleen have been felt during life.

To return to complications: since the blood is deranged, the **heart** must become an object of attention. The frequency of cardiac enfeeblement in typhoid fever is familiar to all, yet curiously enough the heart rarely suffers in the way seen in some diseases of shorter duration—diphtheria, for example. Sudden death may, however, in rare instances, occur. Osler[4] records such a case, and Sir William Broadbent[5] incidentally mentions the possibility of this event in his Lumleian lectures on prognosis in heart disease. Another interesting case is recorded by Clemow,[6] where, in a man aged 25, dyspnœa and high temperature were found to be associated with dilatation of the heart. Venesection was performed, and the patient recovered. Apparently, in rare

[1] Hawkins, *Lancet*, 1892, ii. 1387.
[2] *Johns Hopkins Hosp. Rep.*, 1895, iv. 83.
[3] Clifford Allbutt's *System of Medicine*, 1896, vol. i., p. 824.
[4] *Johns Hopkins Hosp. Rep.*, 1895, v. 461. [5] *Lancet*, 1891, i. 753.
[6] *Ibid.*, 1896, i. 1495.

instances, fatal syncope may occur, as in diphtheria, after the patient has been deemed well enough to leave his bed. Two or three years ago I read the record of such a case, but regret that I have been unable to find the reference. In these cases of sudden death, it is the heart muscle that has suffered; but one would expect the valves to occasionally suffer also in a disease in which septic organisms are circulating in the blood. Malignant endocarditis[1] does occur, but it occurs rarely; yet, as Osler observes, it is remarkable that it is not present more often. Yet not only septic micro-organisms, but the typhoid bacillus, may give rise to acute endocarditis. Flexner[2] mentions three observers who have found the bacillus in this complication, and Kanthack[3] speaks also of having found the bacillus in the blood of a case of ulcerative endocarditis occurring in typhoid fever, though he does not mention that the bacillus was found in the vegetations.

More important from the point of view of frequency are lesions of the **lungs**, though as a serious complication they cannot be said to be common. Yet in an analysis of 95 fatal cases of typhoid fever by Norman Moore[4] death is attributed to pneumonia in six instances. Consolidation of the lungs may occur in the patchy form of broncho-pneumonia, or as consolidation of a whole lobe not differing in aspect from the red hepatization of ordinary lobar pneumonia. Examples of both have occurred in the *post-mortem* room of the Bristol Royal Infirmary during the recent epidemic, and examination of the past records of 58 cases shows five other cases of lobar pneumonia and three of broncho-pneumonia. The question naturally arises, What is the immediate cause of the pneumonia? In a paper upon secondary infective lesions in lobar pneumonia by Lance and Kanthack,[5] one of the writers doubts whether the typhoid bacillus is capable of giving rise to this complication, and states that in four cases of lobar pneumonia occurring in typhoid fever he has found the pneumococcus. In some instances, therefore, typhoid fever seems to predispose the patient to infection by the pneumococcus. In such a case infection would take place presumably by the air. In broncho-pneumonia as a complication the same may occur. Mills Pearce[6] records five cases of broncho-pneumonia occurring in typhoid fever, and here also the pneumococcus was found in two cases, once alone and once combined with streptococci and staphylococci. In two others the colon bacillus was found alone, and in the fifth, which was complicated with diphtheria, the bacillus diphtheria and staphylococcus aureus were present. The cases above mentioned that occurred recently at the Bristol

[1] Osler, *Johns Hopkins Hosp. Rep.*, 1895, v. 465; Shattuck, *Boston M. & S. J.*, 1892, cxxvii. 277.
[2] *Johns Hopkins Hosp. Rep.*, 1895, v. 352.
[3] *J. Laryngol.*, 1896, x. 178.
[4] *Tr. Path. Soc. Lond.*, 1882, xxxiii. 155. [5] *St. Barth. Hosp. Rep.*, 1897, xxxii. 319.
[6] *Boston M. & S. J.*, 1897, cxxxvii. 563.

Royal Infirmary were, one of the lobar, the other of the lobular form of consolidation, but in both of these Dr. Symes found the bacillus coli. In these cases in which the colon bacillus is found infection of course takes place through the blood, not through the air as in the case of the pneumococcus. One would expect inflammation set up in the lungs by these septic organisms to be more liable to break down than that set up by the pneumococcus, which we know almost invariably ends in resolution if the patient lives. The case of broncho-pneumonia that occurred at the Bristol Royal Infirmary, which was set up, as we have mentioned, by the bacillus coli, showed commencing suppuration, but records of serious lung lesions following typhoid fever do not appear to be common. A case of gangrene of the lung is recorded by Macdonald[1] and another by Acker;[2] and Hale White,[3] in bringing forward two cases of pneumothorax after typhoid fever, agrees with Sir Dyce Duckworth that this complication may sometimes possibly arise from the bursting of a small abscess of the lung into the pleural cavity. No doubt if carefully looked for small abscesses would be found not uncommon.

We have seen that septic micro-organisms may set up inflammation of the lungs. Their power for harm is however not limited to this region of the respiratory system, since the **larynx** also may be attacked. Possibly in some instances expectoration from the diseased area of the lung may convey micro-organisms in an exceptionally virulent condition, and deposit them upon the part that eventually ulcerates. In this connection it may be worth mentioning that ulceration of both vocal cords was present in one of the cases of pneumonia complicating typhoid fever mentioned above that occurred recently at the Bristol Royal Infirmary. In other cases, as Kanthack suggests, the ulceration may be owing to the fact that the lowered vitality of the tissues allows septic micro-organisms, always present in the larynx, to attack the mucous membrane. Ulceration of the larynx is not very infrequent. Kanthack[4] found it mentioned in fourteen of sixty-one reports of autopsies on cases of typhoid fever at St. Bartholomew's Hospital. It is, however, not a serious one, but perichondritis may be superadded, and Parsons[5] records a case in which acute œdema supervened, causing rapid asphyxia.

Another lesion of the throat is inflammation of the **pharynx and tonsils**, sometimes with ulceration. Inflammation in this neighbourhood may predispose to infection of diphtheria, which from time to time attacks typhoid fever patients. Examples of this have occurred during the recent epidemic at the Bristol Hospital for Sick Children, and also at the Bristol General Hospital. Middle-ear disease, when it occurs, may also probably be secondary to a pharyngitis.

[1] *Med. Times & Gaz.*, 1862, ii. 127. [2] *Tr. Am. Pediat. Soc.*, 1896, viii. 141.
[3] *Lancet*, 1896, i. 485. [4] *J. Laryngol.*, 1896, x. 174.
[5] *Tr. Roy. Acad. M. Ireland*, 1895, xiii. 337.

Although there is little or no evidence that the typhoid bacillus is capable of setting up inflammation in the lungs or air passages, this can hardly be said of the liver. The blood, after leaving the infected intestines, reaches, as we know, the liver. There it is deprived of many of the toxic bodies absorbed from the intestinal tract, and in cases of typhoid fever seems to leave behind also typhoid bacilli, which, excreted in the bile, find their way to the gall-bladder. Richardson,[1] who has examined the bile from the gall-bladder in three consecutive cases of typhoid fever for typhoid bacilli and found them in every instance, quotes Chiari as finding them in nineteen out of twenty-two cases. Councilman[2] also says that in his experience the typhoid bacillus may be found in nearly every case, and that he has come to regard the gall-bladder as one of the surest places in which to find this micro-organism. The bacillus in this situation is not harmless. Chiari found evidence of inflammation in thirteen of the nineteen cases in which he discovered the micro-organism in the gall-bladder. In these cases the inflammation presumably was not serious, but it may go on to suppuration, and even lead to perforation of the gall-bladder. A recent record of such a case is given by Hawkins.[3] Monier-Williams and Marmaduke Sheild[4] have recorded a case of peritonitis following perforation of the gall-bladder successfully treated by operation, and another interesting case, in which the distended gall-bladder was recognised clinically, and seropurulent fluid withdrawn by an aspirator, with recovery of the patient, is recorded by Mason.[5] A rarer complication occurring in the liver is solitary abscess. Osler[6] quotes Hölscher as finding only twelve cases in 2000 *post-mortem* examinations on cases of typhoid fever, while Dopfer found only a slightly higher percentage. In his statistics there were ten cases in 927 autopsies. One case occurred in the *post-mortem* room of the Bristol Royal Infirmary this summer. A still rarer complication than abscess appears to be suppurative pylephlebitis.

The typhoid bacilli not only find their way out of the blood into the bile, but, as is well known, into the urine. In the gall-bladder they are capable of setting up inflammation, and one would expect therefore that in some instances similar trouble should follow in the urinary tract. Workers in the *post-mortem* room are familiar with the cases of pyelitis not due to inflammation ascending from the bladder, but doubtless set up by septic micro-organisms passing out from the blood with the urine, and could in no way be surprised by the interesting observation made at the Johns Hopkins Hospital that in sixty consecutive cases of typhoid fever, no less than ten had pyuria. The typhoid bacillus, however, does not appear to have been responsible for the pus in the urine in many of these.

[1] *Boston M. & S. J.*, 1897, cxxxvii. 570.
[2] *Tr. Ass. Am. Physicians*, 1897, xii. 41. [3] *Lancet*, 1897, i. 313. [4] *Ibid.*, 1895, i. 534.
[5] *Tr. Ass. Am. Physicians*, 1897, xii. 23. [6] *Ibid.*, 383.

The typhoid bacillus was found in pure culture once only, and once in combination with the colon bacillus. With one exception the bacillus coli was found in the remaining cases.[1] More serious lesions in the urinary tract may, however, occur, and apparently be set up by the typhoid bacillus. In two cases of abscesses in the kidney occurring in the same hospital Flexner[2] found this bacillus. Although the frequency of pyuria may surprise some of us, the common presence of albuminuria is no new fact. A valuable paper upon this feature emanating from the workers in the same admirable hospital may, however, be referred to.[3] In 164 of 229 cases of typhoid fever, albuminuria was noted, and in 21 there were evidences of a definite nephritis. Of these 7 died, "but in no instance did the renal condition seem to be directly responsible."

Of **parotitis, subcutaneous abscesses, periostitis, osteomyelitis,** and **arthritis** I cannot speak. The numerous complications affecting the **nervous system** in typhoid fever also form far too large a subject to be even briefly touched upon; yet I can hardly close without a reference to meningitis. The occasional marked prominence of cerebral symptoms in typhoid fever is well known, as well as the difficulty sometimes experienced in diagnosing the case from one of meningitis; and I have to confess that, under such circumstances, I have fallen into error. Although marked cerebral symptoms may have been present, on the *post-mortem* table, as a rule, the brain to the naked eye shows nothing abnormal. Yet meningitis may be found in rare instances, and in connection with the etiology of this inflammation, it is worthy of note that Flexner[4] states that in no less than seven cases of cerebro-spinal meningitis occurring in typhoid fever the typhoid bacillus has been found.

THEODORE FISHER.

SURGERY.

Dr. Calot, of Berck, is responsible for introducing anew the **treatment of Pott's disease of the spine by forcible reduction**—a method so opposed to the established canons of surgery, and suggested for a class of cases of such gravity, that its issue, as it shall be found to stand or fall, cannot fail to be of supreme importance and interest. In his original communication[5] he affirms, from an experience of 37 cases, that all children with Pott's curvature can be cured without deformity by forcibly correcting the curve as soon as it appears. In November last he contributed a paper to the discussion on this subject at the Clinical Society of London,[6] which was introduced by Messrs.

[1] Blumer, *Johns Hopkins Hosp. Rep.*, 1895, v. 327.
[2] *Ibid.*, 343.
[3] Hewetson, *Ibid.*, 1895, iv. 113.
[4] *Ibid.*, 1895, v. 352.
[5] *Gaz. d. Hôp.*, 1896, lxix. 1447; abstract in *Brit. M. J.*, 1897, i. Epitome, p. 18.
[6] *Brit. M. J.*, 1897, ii. 1501.

Tubby and Jones. He maintained that the difficulties and dangers of the correction were not greater in spinal disease than in disease of joints; and while admitting elements of risk from the anæsthetic, from paralysis, and from tubercular dissemination, he thought the results so far attained very satisfactory; and by dispensing with chloroform, and selecting the cases more carefully, he looked for still better in the future. He classified as unsuitable (1) children in an advanced condition of cachexia; (2) children who suffered from cough; (3) children with abscesses —except after treatment of the abscess by puncture and injection of iodoform, naphthol, etc., which was the only method he countenanced; (4) children with "fistulæ"—unless these could be first cured, a result he did not seem to anticipate; (5) persons over twenty or twenty-five years of age with deformity of long standing, *i.e.* seven or eight years, which resisted traction of from 50 to 80 kilogrammes (110 to 176 pounds). The cases which resisted the latter degree of force did so because of bony adhesions, which were situated either posteriorly between the laminæ and spines, or anteriorly between the bodies as well; and for these, and for all cases which resisted a traction of 100 kilogrammes (220 pounds), he was in favour of a preliminary osteotomy to separate the united laminæ or spines, and, after allowing a fortnight for the wound to heal, completing the reduction in the usual way. This procedure he expected would be sufficient even when there were anterior adhesions; but if it failed, he proposed dealing with these by a second osteotomy, reaching the bodies from the side and taking care to avoid entering the spinal canal.[1]

With regard to **results** after forcible reduction, he asserts that the spine undergoes consolidation just as it does when left to itself. But this bold and general assertion is scarcely justified by such details as are given. "He had radiographs which clearly showed that union took place in some cases by true ankylosis, when the deformity was slight or of medium degree;" but when the deformity was "very considerable," the only consolidation was by ankylosis between laminæ and articular processes, sometimes also between spines: and to make this efficient, it should involve the whole length of the projection, and even extend a little above and below it. Among thirteen recent cases, that is where the tubercular disease is still active, in four "spontaneous consolidation" occurred in from six to ten months, whereas seven were insufficiently consolidated: which means, according to the author, that an insufficient number of laminæ were ankylosed. If after waiting four or five months this condition was found, he recommended an operation to bring about the necessary extent of ankylosis, by apparently stripping periosteum off the united laminæ and applying it where it was desired to promote further ankylosis. The description of the author's method of producing and maintaining

[1] *Brit. M. J.*, 1897, ii. 1503.

reduction in ordinary cases occupies the rest of the paper. Dr. Rédard[1] and Mr. Tubby[2] have devised modifications which simplify the operation; and the latter, in conjunction with Mr. Jones, recommends the employment of a modified double Thomas's hip-splint with an adjustable head-piece in place of the cumbersome and risky plaster casing described by Dr. Calot. Willems,[3] who adopts Calot's method, advocates its being carried out without chloroform, mainly on account of the com pression of the chest during the manipulations, and also in the application of the plaster support, when, if danger threatens from respiratory embarrassment or failure, little can be done. The pain is not nearly so bad as might be expected, and is certainly not acute. Chloroform may, however, be necessary in older children and in adults.

This is the case for forcible and immediate reduction as it is put by Dr. Calot and his followers, and in support of it he cites an astonishingly large number of patients that have been subjected to the treatment. He speaks of nearly three hundred cases of his own, and of six hundred others reported to him from various quarters. If to these we add the sixty cases of Messrs. Tubby and Jones, and the fourteen of Mr. Murray,[4] in this country, we have a total of about one thousand cases. Only ten deaths are recorded. But this surprising record is rendered almost valueless by the absence, except in the rarest instances, of details that are essential in forming a judgment, where such could have been given; and by the extremely short time that must have elapsed since most of the cases were brought under treatment. We are not told, in most cases, the degree and extent of the curve; the stage of the disease; the lapse of time between treatment and report; the condition of the spine since reduction of its deformity; the condition found *post-mortem* in the fatal cases. To take these in order:

Degree and extent of curve.—From Dr. Calot's classification of the spinal deformity as "slight," "of medium degree," and "very considerable," and the fact that he only specifically mentions thirteen cases under the last head, we might perhaps infer that the majority of his cases were of the lesser degrees of severity. At the Clinical Society's discussion the President (Mr. Langton), in reference to Messrs. Tubby and Jones's cases—twenty-five in all,—remarked that "in some of the cases the deformity seemed so slight before operation that a cure would probably have resulted from prolonged rest in bed only."[5]

Stage of the Disease.—Whether, that is, the disease was active or quiescent when reduction was made, and its duration in months or years. In respect of the first half of the question, Calot records eight cases of paraplegia; Tubby and Jones, five cases;

[1] *Brit. M. J.*, 1897, ii. 1643. [2] *Practitioner*, 1898, lx. 31.
[3] *Semaine méd.*, July 28th, 1897; abstract in *Brit. M. J.*, 1897, ii. Epitome, p. 66.
[4] *Brit. M. J.*, 1897, ii. 1504. [5] *Ibid.*, 1501.

Murray, one case, and one of small psoas abscess. The paraplegia, it may be noted, was relieved in all these cases. As to duration of the disease, no indication is given of the proportion of early to long-standing cases.

Lapse of time between treatment and report.—Herein probably lies the weakest point of the whole argument. We have to rely entirely on deduction. Dr. Calot, at the time of his first communication on December 22nd, 1896, had carried out his method in thirty-seven cases; therefore the remaining two hundred and sixty of his cases must have occurred between that time and November 12th, 1897. This interval is 10½ months; and, allowing for the growth of a surgeon's reputation, we cannot be far wrong in assigning the larger proportion of the cases to the later months. Messrs. Tubby and Jones's cases extend over six months. Mr. Murray's experience dates from August 20th, 1897. No attempt is made to differentiate the cases, although the longest lapse of time possible would be far too short for any sound general deduction.

Condition of spine after reduction.—No evidence is forthcoming, except the four cases of Dr. Calot's, in which "spontaneous consolidation" was said to have occurred in from six to ten months, and his radiographs which clearly showed union by true ankylosis in *some* cases. A case mentioned by Mr. Noble Smith[1] is instructive in this connection. It was that of a boy in whom a curved spine had been straightened by the position he adopted of lying on his knees and elbows; in two years he was able to walk about, but a little later died of tubercular meningitis. The cavity in front of the spine had been filled when fresh with bony formation, but the new bone was so friable that it came away during preparation; so that in two and a half years no permanent repair had taken place. On the other hand, Calot, Tubby, Jonnesco,[2] all speak of recurrences of the deformity after reduction, requiring a second or third application of the method.

Post-mortem appearances of the Spine.—The failure to supply this information is inexplicable. Considering the gravity of the disease, and the serious responsibility that must rest with anyone who urges the adoption of a line of treatment that flies in the face of all experience and teaching, it might have been taken for granted that such important evidence as this would have been carefully scrutinised and reported. As it is, the record of these appearances in Mr. Murray's two cases[3] is the only one vouchsafed to us, and their evidence is not encouraging. In the first case the child died less than two months after reduction, of pneumonia (not tubercular): "There was not the slightest evidence of repair, but the gap formed . . . had resolved itself into a 'false joint' bounded by caseous and diseased tissue."

[1] *Brit. M. J.*, 1897, ii. 1644. [2] Quoted in *Ann. Surg.*, 1897, xxvi. 737.
[3] *Brit. M. J.*, 1897, ii. 1630.

There was no abscess, and no evidence of general tuberculosis. The second case died three months after operation, and the same entire absence of repair, or of filling up of the gap, was found, and the back was very "wobbly" at the seat of fracture. There was general tuberculosis.

The advantages claimed for this method by Messrs. Tubby and Jones are: (1) the greater ease of fixation of a straight than of a crooked spine; (2) the avoidance of profound alterations in the chest-wall leading to cramping and displacement of the abdominal and thoracic viscera, and more especially the heart and great vessels; and (3) æsthetic reasons. The first is hardly adequate as a reason for discarding safer methods: the moderate cases will improve under the old treatment, while the more pronounced and inveterate the curve the less favourable does the case become for forcible reduction. The same argument applies with even greater force to the second claim. The æsthetic argument cannot be allowed on its own merits. We have to deal, as Mr. Watson Cheyne said,[1] not with a deformity only, but also with a disease; and we cannot speak of a cure until the tuberculous bone disappears or becomes encapsuled, and bony ankylosis has resulted. Dr. Calot makes light of the risk of tubercular dissemination, and asserts that it is less to be dreaded after forcible correction of spinal curvature than after operations on the knee, and accounts for this difference by assuming that in the former case the segments of tuberculous bone are separated "without rupture of the trabeculæ," while the pressure in the posterior parts is borne on bony structures that are quite healthy. Yet Calot himself, and Tubby, and Murray, have recorded cases where tubercular disease has been apparently lighted up by this procedure; and Noble Smith[2] records three cases of a similar kind. Nevertheless, the freedom from this catastrophe has certainly been remarkable. Can the explanation be that enough time has not elapsed? Even if the slumbering foci of disease are disturbed, absolute fixation and rest of the part is maintained, and the subsequent condition is therefore as favourable as possible; if no general dissemination is caused at the time, the local re-infection may smoulder, and either die out again or gradually gain the mastery, and show its presence at some remoter period, locally or generally. Secondly, as to bony ankylosis: tubercular disease is not conducive to bone-formation around the infected area, and a large cavity filled with blood-clot and cheesy masses is not a state of things to encourage new development of bone, nor is the large cavity that results in these cases likely to be bridged over by bone. M. Ménard writes in the same sense.[3] "Besides the injury of no one knows how grave a character that this violent treatment may produce, there is no reason to believe that there can be a permanent cure obtained, for pathological specimens

[1] *Brit. M. J.*, 1897, ii. 1643. [2] *Loc. cit.*
[3] *Gaz. hebd. de Méd.*, 1897, N.S. ii. 505; abstract in *Am. J. M. Sc.*, 1897, cxiv. 721.

obtained at various stages of the disease show that no new growth of bone occurs to take the place of the bone destroyed by the disease, and there is no growth which can fill up the gap left where the vertebræ have been destroyed and give a sufficient solidity to the spinal column." He therefore concludes that this procedure is without foundation, is dangerous to the patient, and has neither given, nor on pathological grounds can be expected to give, results to prove its value.

It is significant that at the discussion[1] to which frequent allusion has been made, most of the responsible speakers were opposed to the innovation, or at least pleaded that it would be wiser as well as safer to await the result of the treatment in those cases that had already been submitted to it, till sufficient time had passed to warrant an estimation of its value, that is to say about two years hence. This seems to be the only reasonable conclusion in a matter of such importance, and where the evidence produced is so imperfect and premature.

In connection with this method of treatment, Mr. Noble Smith[2] has recently suggested that cases of lateral curvature of the spine might be benefited by forcible correction combined with the use of apparatus, and that without the risks attending the same procedure in Pott's disease. He reports a case which is in progress of treatment, and believes that he has effected a more rapid amelioration than he would have secured by means of his apparatus alone. He advocates only manual force in the corrections, and believes he can influence the rotation of the vertebræ. He bases his advocacy on his experience that whatever position can be obtained by apparatus can always be reckoned upon to become permanent in the course of time.

W. M. Barclay.

OPHTHALMOLOGY.

Two years ago when **the Röntgen rays** had but recently been discovered it was predicted that, amongst other uses, they would be a help **in determining the presence of foreign bodies in the eyeball**. Attempts at first were unsuccessful, but during the past year considerable success has been achieved. De Schweinitz[3] related a case before the Ophthalmic Section of the College of Physicians, Philadelphia, in which he had twice attempted the extraction of a piece of steel with the electromagnet and failed: on the twelfth day after the injury the fragment was located by the X-rays, extracted, and good vision resulted. Two cases are recorded[4] of the presence of a foreign body in the lens being determined by this means, and removed with good results some months after the injury. A

[1] *Brit. M. J.*, 1897, ii. 1501, 1642. [2] *Ibid.*, 1898, i. 76.
[3] *Am. J. M. Sc.*, 1897, cxiii. 566; abstract in *Ophth. Rev.*, 1897, xvi. 94.
[4] *Ophth. Rev.*, 1897, xvi. 396.

similar case is one in which a chip of steel had been in the vitreous chamber for no less than eighteen months. It is well-known how easily foreign bodies become "lost" in the orbit. Here again we find records of the successful use of skiagrams; a lead pellet, a fragment of a percussion cap, and a piece of steel embedded eight months are examples of this. Kibbe [1] relates three cases in which a foreign body was diagnosed, located, and removed; and a fourth case in which the fragment had glanced off the cornea and lodged in the eyelid. Owing to the œdema of the lid, it might otherwise have escaped detection for an indefinite period. Considering that it is frequently impossible to diagnose the presence of a foreign body in the globe by means of the ophthalmoscope, and the immense importance of an accurate diagnosis, all the skiagrams that can be obtained will be of value. It would undoubtedly be of service if all those in whom there was a probability of there being a fragment in the globe, even though it might have been quiet for months or years, could be subjected to the Röntgen rays under the existing improved conditions: radiography would make further advances, and with the increased statistics, the risk of a foreign body remaining in the eyeball could be more correctly estimated. It would not of course follow that if a fragment were detected any operation would be advisable. There can be little doubt that there are many cases in which a chip of steel has entered the eye, and a correct diagnosis was originally made, but eventually abandoned owing to the unexpected subsidence of symptoms.

In the **technique** of the process various methods have been adopted. Some have simply bandaged a rapid plate on the corresponding temple and then projected the rays transversely, but directed slightly backwards; others have used a narrow plate pushed as far as possible into the inner canthus and aimed the rays from the corresponding temple. But by far the best method is that of Mackenzie Davidson [2] by which not only the position but the approximate size of the foreign body can be ascertained.

I have seen reports of some twenty-five cases in which the Röntgen rays were used with success. Though in some instances there was loss of hair on the exposed temple, there was in **no case any serious result.** Chalupecký [3] has made some interesting experiments on this subject. Up to a certain point there is an analogy between the ultra-violet rays and those of Röntgen, and he thought it likely that the latter would have some effect upon the sensitive structures of the eye. It has been found that though the cathode rays are invisible in the ordinary sense, they still produce a sensation of light. This is apparently due, not to interruption of the rays by the lens and therefore fluorescence of that structure, but to the retina being

[1] *Arch. Ophth.*, 1897, xxvi. 517. [2] *Brit. M. J.*, 1898, i. 10, 372.
[3] See *Ophth. Rev.*, 1897, xvi. 336.

rendered fluorescent and so stimulating itself. Chalupecký's experiments on rabbits in May last show that prolonged exposure —some twenty-four hours—to the X-rays produced congestion and inflammation of the superficial structures; succeeded in a few days by baldness of the side of the head towards the Crookes's tube, and acute inflammation of the cornea followed by dense grey opacity. The effect, in short, was similar to that of some active chemical irritant. The other side of the head was in no way affected and the general health of the animal remained good. Casey Wood refers[1] to an instance in which a patient's head was submitted to the rays for about an hour, with the result that he lost a portion of his scalp and most of the surrounding hair. I cannot, however, find any single instance recorded of any serious injury being done in the attempt to radiograph a foreign body in the eyeball.

* * * *

The literature of **Glaucoma** still grows apace. Czermak suggests that the increase of tension may in some cases be due to a shallow anterior chamber which is consequent on diminished secretion of the aqueous. In favour of this view he adduces the fact that the ciliary processes (which secrete the aqueous), are atrophied in the senile eye. Priestley Smith, reviewing Czermak's paper[2] points out the fact that the anterior chamber is very slowly re-established after iridectomy for glaucoma; that blood in the anterior chamber is very slowly absorbed under such conditions; and that the deterioration of vision after operation without further increase of tension points to degeneration of the secreting organs. A good many cases have been recorded in which taxis has proved beneficial. Several observers have seen serious harm from the use of cocaine in glaucoma; but Groenouw (Breslau) advocates its use, not as a substitute for iridectomy, but as a remedy in those cases in which eserine fails. He related three cases of acute glaucoma and two of absolute glaucoma, in which cocaine was successful. I have never ventured to rely on it in acute or subacute glaucoma, but a weak solution of it in conjunction with weak eserine often acts better than eserine alone. In absolute glaucoma it is of course perfectly safe to use cocaine, and I have frequently found it beneficial. Its good effect is probably partly due to the temporary contraction of the vessels of the iris and ciliary region which it produces. Weill, of Zürich,[3] attempted to set up glaucoma in the eyes of rabbits; but, like the experiments of Mauthner, his results were negative, yet his theory remained unshaken. Assuming, therefore, that glaucoma is due to irritation of the sympathetic, he advocates excision of a portion of the cervical sympathetic.

[1] *Ophth. Rec.*, 1898, vii. 44. [2] *Ophth. Rev.*, 1897, xvi. 201.
[3] *Am. J. Ophth.*, 1898, xv. 12.

The most recent statistics show that early iridectomy still gives the best results.

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Attempts to render the conjunctival sac aseptic have not been successful. Randolph (Baltimore)[1] found germs in the conjunctival sac in 80, out of 100 healthy subjects. Of these 80, half were treated with aseptic irrigation and half with 1 to 5000 corrosive sublimate solution. The irrigation was thorough and was repeated three times in each case. Cultures were then made, and it was found that the aseptic and antiseptic treatment were equally futile. Only about 20 per cent. of the conjunctival sacs were rendered sterile. In almost every case the micro-organism found was one closely related to the staphylococcus pyogenes albus, but with much less pathogenic activity, and identical with the staphylococcus epidermidis described by Welch as a regular inhabitant of the skin and hair follicles. Trousseau found that after irrigating the conjunctival sac with 1 to 2000 sublimate lotion or 1 to 1500 cyanide of mercury—the strongest germicides the cornea will stand—the conjunctiva remained contaminated with bacteria. This perhaps explains the disappointing results obtained from the use of the perchloride in ophthalmia neonatorum: it apparently causes much smarting and is not more efficacious than boric acid lotion.

* * * *

The **sterilisation of ophthalmic instruments** without either blunting or tarnishing them has always been a difficult problem. De Schweinitz[2] makes a useful suggestion. He finds that ten minutes immersion in a 1 to 1000 formaldehyde solution is satisfactory; but he prefers the use of pure formaldehyde gas. The instruments are first washed and dried, and are then placed in a box in the bottom of which there is a small dish of formaldehyde. A small piece of calcium chloride is placed in the dish and the close-fitting cover adapted. In ten minutes the instruments are sterile: no harm is done by leaving them in the gas for hours.

* * * *

Two new local anæsthetics are introduced to our notice. **Holocaine** is a derivative of para-phenetidin. It is a white crystalline powder, insoluble (or sparingly so) in water; more soluble in ether, alcohol, or hot water. It is not necessary to sterilise solutions of the hydrochloride, as holocaine is directly bactericidal in its action. It causes smarting when first applied, but unlike cocaine it produces redness of the conjunctiva which may last an hour. A 1 per cent. solution possesses the following advantages over cocaine:[3] its action

[1] *Arch. Ophth.*, 1897, xxvi. 379. [2] *Ophth. Rec.*, 1897, vi. 380.
[3] *Ibid.*, 515.

is very rapid, anæsthesia being produced in fifteen seconds; it causes no dimness of the corneal epithelium; the effect is more lasting, anæsthesia being kept up for an hour after a few applications; it does not dilate the pupil, nor cause dimness of the cornea; its effect extends deeper than that of cocaine and causes anæsthesia of the iris even in glaucoma; it is absorbed by, and acts on, inflamed surfaces; it is always not only aseptic but antiseptic; it produces no toxic effects. It is relatively cheaper than cocaine and keeps better. It has been used in almost every variety of ophthalmic operation, and its only disadvantage is that it produces injection of the cornea and consequent bleeding in some operations. It produces a toxic effect if injected hypodermically.

Orthoform [1] is a white powder with no smell, slightly soluble in water and therefore slowly absorbed. It seems likely to be of great use in general surgery, and from its description should be of use in some varieties of chronic painful inflammations of the cornea. Applied to the eye of the rabbit it causes some redness and then anæsthesia.[2] It is said to be an antiseptic and in the form of fine powder or ointment it might prove of use in trachoma, but we can find no record of its introduction into ophthalmic surgery as yet.

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Numerous diseases of the eye are the result of **auto-infection,** and Panas (Paris) has dealt with this subject recently, and points out many possible sources of infection which may easily be overlooked and on which ordinary text-books are silent. We quote the following from a review of the work by Priestley Smith:[3] "A common source of auto-infection of the eye through the medium of the blood is gonorrhœa of the genitals. The conjunctivitis which arises in this way is to be distinguished from that caused by direct contact with gonorrhœal pus. The discharge is rather mucous than purulent, the chemosis less severe, complications on the part of the cornea are less frequent and the whole course milder. The eye infection alternates with invasion of the joints or tendons. The same poison is a well-known cause of iritis, peripheral neuritis, sometimes of the optic nerve, tenonitis of the eyeball, and adenitis of the lacrymal gland."

Mild cases of the affection of the conjunctiva similar to that described above occur in Bristol, and I have met with patches of tenonitis in conjunction with, and presumably dependent on, gonorrhœa on several occasions.

CYRIL H. WALKER.

[1] *Brit. M. J.*, 1898, i. 362. [2] *Med. Chron.*, 1897-8, N.S. viii 199.
[3] *Ophth. Rev.*, 1897, xvi. 176.

Reviews of Books.

Anomalies and Curiosities of Medicine. By GEORGE M. GOULD, M.D., and WALTER L. PYLE, M.D. Pp. 968. London: The Rebman Publishing Co. (Ltd.). Philadelphia: W. B. Saunders. 1897.

This unique volume is the product of immense research. No such storehouse of extraordinary histories has ever been formed in recent times. Yet it is from the study of such residual phenomena, which seem to be exceptions to the ordinary laws of science that much of the advance of knowledge is always due. They supply valuable indications of the deficiencies in existing generalisations, and of the wide field of science which lies beyond. As Bacon says, "histories of the works of Nature which have a digression and deflexion from the ordinary course" are one of the means for the progress of science; but, as we know, he complained that in his day "a substantial and severe collection of the heteroclites or irregulars of Nature, well examined and described, I find not." We have here a praiseworthy effort to form such a collection for medical science. Almost any section might be expanded into a separate treatise, and we may add that almost every section is a good *résumé* of what is known on the subject. Still, it is beyond the power of any individual to give an exhaustive account of all known facts on so many subjects, even though he were an Aristotle himself, and a critic must not be thought ungrateful who points out missing records and tries to add his mite to the store.

Amid so much that is valuable, we must protest against space being wasted in purveying "for the appetite of vain and curious wits, as the manner of Mirabilaries is to do." The American habit of dilating upon sexual abnormalities, however unimportant, detracts from the scientific value of the book, and this blemish is the more distasteful in a beautifully illustrated volume like the present. Apart from these unfortunate paragraphs, the book is a mine of interest from beginning to end.

There are very few Americanisms and misprints. We do not know whether to "duplicate" a feat is to repeat it (page 424). "Camptown" is not the name by which the seat of the late plague epidemic—"Canton, in China"—is known. Poor Laura Bridgman, the blind deaf and dumb girl is described on page 434 as having shown an "affiliation" for her special friends, by which we presume an affection is only meant. Still these are very slight slips in such a large work.

The sections where the account of Laura is given are some of the best in the book. Other instances of persons similarly affected, of scientific interest to the psychologist, are recorded, as well as prodigies of memory, where we think some of Lord Macaulay's own feats are worth noticing. The records of the endurance of high temperature have physiological importance, but the capacity of the human race for enduring cold with little or no clothing is not less remarkable. The Roman poet's account of certain naked British tribes spending much of their time in the icy water of their streams, and Darwin's description of the Fuegians and their infants naked under the snow-storms confirm the scanty accounts here given. A fascinating history of the children brought up by wolves in India supplies the authorities on which some of Rudyard Kipling's wildest stories are founded, and a surprising number of instances are recorded.

We have compared the collection of athletic records with English ones, and found them carefully put together, allowing for the histories of one or two performances not altogether accepted on this side the water. The battle as to the existence of centenarians has been completely fought out; but it has been left for the authors to collect a vast number of instances, many of them indeed apocryphal, though others, like that of Dr. Salmon, beyond all doubt. In the stories of suspended animation, it is curious to see our old friend—the account of a lady buried with her rings, and revived by thieves pulling them off by their teeth—referred to definite cases in France and Germany; but it appears in the folklore of many countries, and has a home in one or more English churchyards. For the honour of the "ould" country too, the late Irish M.P. who was without legs and arms and yet rode to hounds, should be noticed among the armless painters and athletes.

It is difficult to select the best from such a mass of records; but the accounts of injuries of the skull seem remarkably complete and well put together, and, indeed, the descriptions of recent surgical operations are beyond all praise. We miss, however, among ovariotomies on the aged, Mr. Bush's Bristol case. There is a curious little misprint on page 659, where a British ship, the *Tartar*, is called a Tartar vessel, which reminds us of the seacoast of Bohemia; and, again, the Queen's youngest son is spoken of as "the old Duke of Albany" on page 815.

It is a great pleasure to get full histories of well-known persons like Alexis St. Martin, the man with an opening into his stomach, on whom so many theories of digestion have been based, and most readers will be surprised to hear that he was still living in 1879; but since then both he and Laura Bridgman have passed away, though Binet's case of double personality, Felida X., is still among us. The psychological notes might have been enriched with many instances given by Sir William Hamilton, among which we can only refer to the man of double personality, who for years had a continuous and connected

dream by night, during which he seemed to be a rich and prosperous citizen, while in the day he toiled as a wretchedly poor labourer. The revival too, in a fever, of long chapters of Hebrew heard casually years before by a German servant is another of Hamilton's historical illustrations well worthy of record. But when all is said, we cannot but be grateful for the stupendous labour which has produced such an excellent collection, the interest and utility of which can hardly be exaggerated.

John Hunter. By STEPHEN PAGET. With Introduction by Sir JAMES PAGET. Pp. 272. London: T. Fisher Unwin. 1897.

Our first word in reference to this book must be one of sincere regret at the death of Mr. Ernest Hart, the accomplished editor of the series of biographies of which this volume is the introductory one. No more able journalist or energetic and wise reformer has ever been found in the world of medicine, and his removal leaves a space in our ranks, which it will be difficult to adequately fill.

No name more appropriate wherewith to begin this series of "Masters of Medicine" could have been found than that of John Hunter; and no one could be found so suitable to write the short introductory chapter as the acknowledged and venerable head of the surgical profession in this country. Sir James Paget refers, in terms most suggestive of a definite fellow-feeling, to Hunter's natural love of collecting and observing, and his belief that truth in science is to be attained not so much by thinking out deductions from facts hitherto admitted, as by continued experiments and the collection of more material and more facts, or, in the words of Hunter himself, "Don't think, try;" and although year after year some chosen man of high standing in our profession has searched out all possible records of John Hunter, in the hope of finding some new topic wherewith to garnish his Oration in Lincoln's Inn Fields—and he has been studied from every point of view—there was yet room for this pleasant little book.

John Hunter was born in Scotland on the 13th of February, 1728, the youngest son of a large and talented family. When he was thirteen years old he lost his father, and he became the spoilt child of his mother. He is a very remarkable, or almost unique, instance where an idle or illiterate boy, who would not learn but spent his time in wandering about apparently without aim and unfit for a useful life—for he was tried on more than one occasion,—became a most hardworking and renowned naturalist, philosopher, and surgeon, leaving volumes of valuable research behind him, with the credit, as Sir James Paget says, "of having raised our profession from the condition

in which he found it, a mechanical art, to one grounded on scientific principles."

We have in these pages a pleasing account of the Hunter family, who were evidently above the average in mental capacity; and it is satisfactory to find justice done to the eldest brother, William, who gave John, many years his junior, his first chance of success. In 1748 John went to London and joined his brother William, who had been settled there for many years. The brothers became involved in many controversies, and, in after days, there was complete estrangement between them.

John soon recognised that surgery, for which he had a great taste, was to be his profession in life. His brother had got him permission to attend the hospital at Chelsea, where Cheselden was then the chief; and he attended from 1749 to 1751, doing a little minor surgery. At the latter date Cheselden died, and he then entered St. Bartholomew's under Percival Pott; and, finally, in 1754, with the view of getting ultimately on its staff, he entered at St. George's, and was sole house-surgeon in 1756.

In 1760 his health broke down, and he was threatened with consumption; and obtaining a commission as army surgeon he went abroad, and was employed both in naval and military matters. He saw service in Belle Isle and Spain and Portugal, and after an absence of about two years returned in good health to London to resume his work.

Hunter's numerous preparations and the living animals which he kept increased to such an extent that he was obliged to look out for a home for them, which he found at Earl's Court, a hamlet "about two miles from London." There is an interesting account of his obtaining the body of the Irish giant, Byrne, after setting men to watch for his death, and bribing the men who watched, to whom he had to pay £500; and transferring it in his own carriage through the London streets at night. Some have confused this giant with our local giant, O'Brien, who was 8 feet 3 inches in height (a description of whom the writer has procured from one who had seen him). He died in 1805, and, although attempts were made to get the body, was safely buried in Trenchard Street Roman Catholic Church.

In 1768 John was elected surgeon to St. George's; and in 1771 he married. The hospital appointment gave him an opportunity of taking house-pupils, of whom he had a succession; and his popularity with the students, and the numerous fees resulting from it, led to much jealousy with his colleagues. One of his early pupils was Edward Jenner, and between the two a continued close friendship existed.

Hunter's first course of lectures on the "Principles of Surgery" was given in 1773. In 1785 he performed successfully his first operation for popliteal aneurysm, by ligature of the femoral at a distance from the disease: and it is an instance of the petty jealousies of his colleagues in some of their frequent encounters with Hunter that they put forward this case as an

instance of his incapacity, as the patient had died; but they omitted to say that he died a year after of an entirely different complaint.

Hunter had suffered for many years from angina, and from an attack of this he died on the 16th of October, 1793, at a meeting of the governors of St. George's Hospital.

We have a description of Hunter's appearance: "He was five feet two inches high, strongly built, and toward the end of his life somewhat corpulent"; a description which does not seem to tally well with the celebrated picture by Reynolds, which represents him as certainly a slight if not tall man. His character is touched upon: his hasty temper, his bluntness and his caustic humour, as well as his generosity and pleasant style of conversation, and a few incidents are given to illustrate these several features. He is contrasted with Ambroise Paré. "Paré advanced the art of surgery, but Hunter taught the science of it."

The purchase of the museum by the Government, and its transference to the College in Lincoln's Inn Fields, together with other details, and the destruction of his manuscripts by his executor, Sir Everard Home, occupy the final chapter of a pleasant and well-written book; and we shall welcome others of the series.

El Coléra en la República Argentina. Por el Doctor José Penna. Pp. xv., 361. Buenos Aires: Jacobo Peuser. 1897.

This is an elaborate account of an invasion of the Argentine Republic by cholera during forty years—from 1856 to 1895. It originally broke out among the soldiers of a military expedition directed against Brazil in the first year mentioned, and. when the army returned home, they carried the disease to the inhabitants of Buenos Aires, the capital, and there it remained endemic until 1867, when the smouldering fire blazed forth, and the cholera was responsible for 3000 deaths in the city and the surrounding country in the early months of that year; thence it spread to the neighbouring States of Uruguay and Paraguay, affecting severely their respective capitals of Monte Video and Asuncion, and also the districts of Corrientes, Santa Fé, Santiago, and Cordova. In the epidemic of 1893 the mortality from cholera reached 1000, and the ratio was 45 per cent. of those attacked. But the worst outbreak was in 1886, when 11,000 succumbed to the disease in the Argentine and adjacent Republics, and the proportion of deaths to those attacked attained the high figure of 75 per cent. From that time the epidemics became less frequent and the fatalities were not so numerous, owing to the careful sanitary measures taken by the Government, prompted by a better knowledge of hygiene, until in 1895 the disease disappeared altogether.

A Contribution to the History of the Respiration of Man. By WILLIAM MARCET, M.D., F.R.S. Pp. 116. London: J. & A. CHURCHILL. 1897.

In a handsome volume, copiously illustrated with diagrams and charts, Dr. Marcet has reprinted, with additions, the four Croonian lectures which he delivered in 1895 before the Royal College of Physicians. They contain summaries of our present knowledge of the influence of oxygen on vital processes, of the action of diminished and increased atmospheric pressure on breathing, and of the effects of various volitional processes on respiration.

The book is one which will appeal to physiologists rather than to practitioners, for its practical bearing on clinical medicine is not very considerable.

A System of Practical Medicine by American Authors. Edited by ALFRED LEE LOOMIS, M.D., and WILLIAM GILMAN THOMPSON, M.D. Vol. I.—*Infectious Diseases.* Pp. 5–11, 17–985. London: Henry Kimpton. 1897.

Dr. Gilman Thompson in the preface to this volume states that he and the late Dr. Alfred Lee Loomis undertook the joint editorship of this system, and that by securing the co-operation of leading American practitioners and teachers they have been able to assign each subject to an author of the highest repute in its special branch. He further adds: "A closing word is due and affectionately rendered to Professor Loomis. He secured the authors, apportioned their subjects, decided the arrangement and classification of the entire work, and discussed with me many important details, so that in completing the editorial duties alone I have been able to carry out the designs which he had already formulated. He was one of the world's great masters of medicine; he leaves it richer for this result of his knowledge of the science and of his contemporaries who could fitly join him in expounding it. His own article on Endocarditis will be read with all the interest attaching to the latest production of a man universally admired for his attainments and respected for his personality."

The work is to be completed in four handsome imperial octavo volumes, containing from 900 to 1000 pages in each volume. The design is to present a thoroughly practical work, with no extended historical statements and discussions. Each author is expected to present the results of his personal experience in combination with the views of other authorities. There will be no general articles on hygiene, bacteriology, pathology, or symptomatology; but these subjects are to be separately presented in connection with each disease. The system is a

work of which the American profession may reasonably feel proud; and the publishers may certainly expect that it will be greatly in demand.

The first article is on "Malaria." This is the joint product of Dr. William H. Welch and Dr. William S. Thayer. The former states definitely that the disease is caused by the specific protozoan parasite called Hæmatozoön malariæ. He proceeds to describe the parasitology of the disease, and gives two excellent plates illustrating the various forms found in the quartan, tertian, and æstivo-autumnal fevers; and also illustrating the connection between the onset of each paroxysm and the ripening and sporulation of a generation of parasites, and the setting free of a new brood: Dr. Thayer details all the clinical phenomena under the heading of "Etiology, pathological anatomy, symptoms, diagnosis, prognosis, and treatment." The authors have still to regret that the manner of existence of the parasite outside the body, and the manner in which the infection takes place, are still wholly unknown. But the action of quinine on the malarial parasite has been abundantly studied, and gives encouragement for more success in the future as regards the treatment of other parasitic diseases.

The article on "Typhoid Fever" is written by Dr. J. C. Wilson, of Philadelphia. In his definition of the disease he states that "Eberth's bacillus is present in the lesions," but he does not emphatically make the parasite the central point of the disease. He gives a terse and excellent summary in 64 pages of the leading phenomena of this well-known malady; and we are glad to note that "there is no proof whatever that this disease in the absence of the germ referred to can be generated by the products of decay or decomposition, by sewer exhalations, by tainted food, or by the action of other bacteria." It is pointed out that the "bacillus completely fulfils two of the requirements of the law formulated by Koch in regard to the evidence that a disease is caused by a given micro-organism: it is present in every case of the disease and in such distribution as will explain the specific lesions, and it can be isolated in pure culture. The third requirement of the chain of evidence, that the disease must be reproduced by inoculation of the isolated organism, remains unfulfilled." We regret to find that the author has not found it needful to adopt the Widal test. He states that "the direct diagnosis of the developed disease finds its support in the continuance of the febrile movement and the appearance of abdominal symptoms;" but he does not tell us how to establish the disease when there are no abdominal symptoms. The diazo-reaction of Ehrlich is clearly of more doubtful utility, inasmuch as it occurs "in many other diseases, especially acute miliary tuberculosis, chronic tuberculosis, measles, scarlet fever, malarial fever, and pneumonia." We venture to think that before another edition of this system is called for, the Widal reaction will have shown itself to be the most trustworthy

evidence of the presence of typhoid fever: and that the application of the test will materially reduce the list of infectious fevers of obscure nature described in the last article by Dr. Walter B. James.

The article on "Tuberculosis" is the work of Dr. William Osler, of Baltimore. It is defined as "an infectious disease due to the *bacillus tuberculosis*, characterized by the presence of nodular bodies called tubercles (or diffuse infiltrations) which may undergo caseation or sclerosis, and which may finally ulcerate or in some situations become calcified." In an article of 118 pages we have a valuable record of our knowledge of the effects of the tubercle organism on all the principal organs of the body. Dr. Osler remarks that the Adirondack Cottage Sanitarium, now in the twelfth year of its existence, has proved, under the management of Trudeau, a model institution of its kind: that it "is not only an object lesson of the greatest value in showing how much may be done for the relief of tuberculosis in a properly arranged institution, but it also demonstrates how the scientific study of tuberculosis may be carried on."

We have considered only a few of the important articles contained in this attractive volume, but we trust we have said enough to stimulate our readers to make a further acquaintance with it. Amongst many other useful contributions they will find that smallpox has been dealt with by Dr. William M. Welch, who may be taken to express the best informed opinion on the other side of the Atlantic when he states that "if vaccination were generally practised in infancy and repeated as circumstances required, there would be but little need of considering any other means of protection against smallpox." Dr. W. H. Park's article on "Diphtheria" is one to be carefully studied. He comes to the conclusion that the antitoxin is of decided value, but that it must be used early in the disease, and that it is of the greatest use in uncomplicated cases.

In justice to the publisher it is only fair to state that this set, which promises to be of great practical value, will also be an ornament in any practitioner's bookcase.

A System of Medicine. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.D., F.R.S. Vol. IV. Pp. xii., 880. London: Macmillan and Co., Limited. 1897.

Over two hundred and fifty pages of this volume are occupied with Diseases of the Liver: of these, Dr. William Hunter is responsible for more than a hundred, and his name is a sufficient guarantee that the present knowledge of the physiology and pathology of the largest gland in the body is well represented. He shows that jaundice is always the result of absorption, that it is caused by changes in the liver and in the bile, and is thus in every sense hepatogenous, the result of absorption of bile formed and

excreted by the liver. "The cause of the absorption may be obvious—mechanical obstruction (*Simple hepatogenous jaundice*), or more obscure and less easily demonstrable swelling and catarrh of the lining epithelium of the bile passages, with consequent increased viscidity of the bile (*Hæmo-hepatogenous jaundice*)." The influence of catarrhal conditions of the mucous membrane is also manifest in the production of cholesterin and cholelithiasis; for we find that an "increased formation of cholesterin in connection with subacute inflammatory and catarrhal conditions of the lining membrane of the bile passages, especially of the gall-bladder, is the chief factor underlying the formation of gall-stones in disease. The cholesterin which goes to form gall-stones has never been in solution in the bile. It is formed as viscous material within the degenerated epithelium thrown off from the gall-bladder." Hence the conclusion follows: "that the large group of morbid conditions comprised under the term cholelithiasis are due primarily to disorder of the bile passages, not to functional disorder of the liver." Suppurative Hepatitis is described by Dr. Andrew Davidson, of Mauritius; and Amœbic Abscess by Dr. Henri A. Lafleur, of Montreal. Mr. Mayo Robson is responsible for the chapter on Diseases of the Gall-bladder and Bile-ducts, and Cholangitis; and Dr. Reginald H. Fitz gives us nearly twenty pages on Diseases of the Pancreas.

The section on Diseases of the Kidneys occupies nearly two hundred pages: of these Dr. Dickinson has written over fifty pages on the Diseases of the Kidney characterised by Albuminuria; and it is needless to add that no one could have written a more concise and complete account of the varieties of Bright's disease. A lengthy chapter on the General Pathology of the Renal Functions is by Dr. Rose Bradford; and this is followed by one on Nephroptosis by Dr. Alexander Macalister, who comments especially on the occurrence of dilatation of the stomach, owing to the pressure on the duodenum caused by the displacement of the kidney. He speaks approvingly of the operation of nephrorrhaphy; but he does not endorse the view that a movable kidney is a continual menace to life. The various other surgical aspects of affections of the kidneys are described by Mr. Henry Morris, whose account of the distinctive points in the diagnosis of renal tumours makes it appear that they should not be the most difficult of abdominal enlargements to diagnose correctly.

Diseases of the Thyroid Gland have been entrusted jointly to Dr. W. M. Ord and Dr. Hector Mackenzie. We notice that they do not commit themselves to any theory as to the pathology of Graves's disease, and they do not favour the operative treatment; for if we compare the results with those of other methods of treatment, we find no striking difference except a death-rate of twelve per cent. due to the operation; and again, "We consider that operative removal of a portion of the thyroid is never justifiable in an acute case. In a chronic case we should only be disposed to recommend it where the tumour seriously interferes

with the breathing, or where other methods of treatment have failed."

Dr. H. D. Rolleston has a section on Diseases of the Spleen, and another on Addison's Disease. He remarks that, "although the lesion is generally tuberculous, it is not necessarily so in all cases," and that the results of treatment of Addison's Disease by suprarenal gland-substance as compared with thyroid in myxœdema are at present disappointing.

A chapter on Hodgkin's Disease by Dr. George R. Murray is followed by one on Scrofula, the joint product of Professor Allbutt and Mr. Pridgin Teale, who advocate the method of free removal of the glands as suggested by the Editor in a paper which he read at the International Medical Congress in London in 1881.

Sir Dyce Duckworth sums up what is known on the subject of Obesity, and he strikes the correct note when he affirms "that there is nothing special or peculiar in the subject of obesity which any well-educated medical man may not be trusted to deal with. It is necessary to assert this much, because of late years this matter has been absurdly exalted into a 'speciality'—a pretension unworthy of our profession and misleading to the general public."

The three following chapters are on the diseases of the respiratory organs, the general pathology of respiratory diseases, and the treatment of asphyxia—being by Dr. A. Ransome; whilst the physical signs of the diseases of the lungs and heart are described by Dr. Hector Mackenzie.

The remaining portion of this book is on the Diseases of the Nose, Pharynx and Larynx, and is the joint product of Dr. de Havilland Hall, Dr. Greville MacDonald, Sir Felix Semon, and Dr. Watson Williams. We are glad to observe that the authors strongly condemn the common tendency to refer all and sundry obscure neuroses to the nose, and to explain their occurrence as nasal reflex phenomena; and they emphasise the importance of being on our guard against this prevalent error. They also condemn all unnecessary snipping of the uvula.

System of Diseases of the Eye. Edited by WILLIAM F. NORRIS, M.D., and CHARLES A. OLIVER, M.D. Vol. I.—*Embryology, Anatomy, and Physiology of the Eye.* Pp. xvii., 7-670. Philadelphia: J. B. Lippincott Company. 1897.

Notwithstanding the large amount of literature in the English language dealing with ophthalmology, there has hitherto been no complete work presenting anything like a full summary of our knowledge of the subject. It is a notorious fact that though an immense amount of useful work has been done during the last few years, yet there has been no very pronounced departure

from old and accepted methods, and no very startling development in the science of ophthalmology. It has, so to speak, settled down to certain accepted facts and principles. The time is therefore particularly appropriate for the production of this "System of Diseases of the Eye," a comprehensive work which is to occupy four volumes.

The first volume, which is now under our consideration, contains eleven articles; of which two are by English authors, two by German writers, and the remainder by Americans who are well-known masters of the subjects they have undertaken. In the first article Dr. John A. Ryder, of Philadelphia, strikes what we take to be the key-note of the whole "System," and deals *ab initio* with every detail in the development, not only of the eyeball and its appendages, but also of the orbital nerves and optic tracts. He relates evidence confirming the view that the vertebrate's eye was functional as such long before it developed an optic stalk, or even was pushed out from the brain-wall. The paired eyes of the higher vertebrates were primarily nearly median in their position. The theory that the retina really represents a portion of the primitive brain-wall or cortex precociously projected outward upon the optic stalk is well traced; as also is that of Müller and others, that the optic *stalk* does not share in the formation of the nervous part of the eye, but is broken down in course of development, and only serves as a guide to the optic nerve-fibres as they grow backwards from the retina to the brain. Drawings from the recent work of Miss Platt on the origin of the orbital muscles are introduced, showing the manner in which "these outgrowths from the head-cavities grope their way through the mesoderm and embrace the eyeball, seeking, so to speak, for their proper points of insertion upon it."

The four chapters on the Anatomy and Histology of the Eye occupy more than half the book, and it would be impossible here to do justice to the numerous good points contained in them. The information is, of course, up to date and accurate, and moreover is clearly put. For instance, what many regard as a vague structure, the capsule of Tenon, is accurately and, by means of a simple diagram, intelligibly described. In the same way the canal of Schlemm, and its communications with the venous system on the one hand, and with the anterior chamber on the other, are admirably presented. A full account is given of Leber's experiments, showing that the spaces of Fontana cannot in the normal eye be injected from the anterior chamber with non-diffusible colouring matter such as Berlin blue, and proving that no "open communication" exists between the aqueous humour and the venous circulation in the canal of Schlemm. Further evidence is given which tends to prove that there is no absorption of the aqueous by the anterior surface of the iris. Amid so much minute detail the practical bearing and surgical importance of various points are not lost sight of, nor are

matters of historical interest neglected. The ciliary muscle is traced from its discovery by Eustachius down to the latest details. The histological evidence of Juler, and the physiological experiments of Langley and Anderson, are related in support of the theory that dilatation of the pupil is due to radial muscular fibres, and this view must now be considered as definitely proved. In about fifty pages giving a very clear account of the structure of the retina we do not notice any important departure from already accepted teaching, and some of the illustrations have been familiar for many years. The theory of "twin cones" —the apex of one cone bent over in a loop to join the apex of a neighbouring rod (or, more rarely, cone)—is, of course, given; but the author does not express his opinion as to the accuracy of the investigations on which this view is based. In fact, we may say throughout this portion of the work, amid all the wealth of theory and research submitted to the reader, he is too frequently left to form his own opinion as to which view is the most tenable. We should prefer the writer to come forward not merely as an author but as an authority. The chapter by Dr. Alexander Hill on the anatomy of the intracranial portion of the visual apparatus does not suffer from this defect, and is exceedingly good and ably written. He assesses the value of experimental evidence with great clearness and judgment; but the diagrams in this chapter are meagre and scarcely up to the standard of the illustrations of the rest of the work. We are also surprised to find no mention of the cortical destination of the fibres of the macular bundle.

The section devoted to Congenital Malformations of the Eye deals with every known variety of abnormality in systematic order. The now generally accepted explanation of buphthalmos is well set forth, and the common error of regarding coloboma of the iris as due to persistence of the fœtal fissure is exposed and the correct explanation given.

The chapters on dioptrics, light perception, and binocular vision call for no special comment. They show that the present clinical tests for vision, complete as they are compared with those of twenty years ago, still leave much to be desired. Dr. William Thomson discusses at some length the various theories of colour vision, and inclines to the acceptance of the Young-Helmholtz theory. He adopts the view recently advocated by Professor Rutherford that the occasional limitation of colour blindness to one eye proves that the defect is retinal and not cortical. Seeing that it has been shown that there are special nerve endings for appreciating heat, cold, pain, and touch, special nerve endings for appreciating the various primary colours seem not improbable. The last thirty-three pages are devoted to the photo-chemistry of the retina. The characteristics of the various forms of retinal pigment are described, and interesting details given of recent research into the question of migration of the pigment and the shifting of the cones in the frog's retina

under the influence of light. The variations in the electrical conditions of the optic nerve when the retina is subjected to light are fully discussed. But after reading this able article we must confess that we are nearly as much in the dark as ever as to how light-waves become converted into light-sensations.

It is inevitable that in a series of articles by various writers there should be much repetition, and we cannot help regretting that each article is not prefaced with a summary of its contents; the index, full, admirable, and accurate as it is, hardly compensates for the want of this. The printing and general get-up of the volume leave nothing to be desired, and the profusion of plates and diagrams renders it very complete. The editors and publishers have succeeded in a very ambitious undertaking, and deserve congratulation for producing a work which will be welcomed by every oculist conversant with the English language.

Essays and Addresses. By Sir J. RUSSELL REYNOLDS, Bart., F.R.S., M.D. Pp. xxiv., 307. London: Macmillan and Co. Limited. 1896.

These Essays and Addresses, as might be expected of so distinguished an author, have a very wide range, and are directed in great measure to first principles. As a teacher and examiner he had his own views on the course of medical studies, and he considered that far too much time is spent by the average student over anatomy. He complains that positivism is permeating all our scientific work and directing the course of our medical enquiries, and that physiology is taking a second place; and he draws a painful picture of the struggling student and practitioner, to whom certain facts have been taught instead of principles.

The essays are permeated with the idea of "Life" as a central object of study: life, as the aim of the physician, that which gives unity and form to all his actions, purposes, and thoughts. A patient is not a clinical phenomenon, but a being holding an individual history: and all examination of a patient should be based on philosophical methods. This ideal naturally leads to a dislike of specifics in treatment, and also to disapprobation of that mental method in some doctors, who are content in recognising a definite lesion in a patient, and not to treat him as a whole. In some patients there may be nothing organically wrong to be discovered; but there may be in others the consciousness of a deep unrest, or of a failing power, which he feels, but he cannot see, or of a sense of impending evil in brain or heart, or of a want of intellectual grasp. In fact, the author does not believe that precise observations should be limited only to a class of facts, which can be counted, measured, or weighed.

Specialism may be abused; but the adequate equipment of

the country practitioner, that makes him ready for any kind of emergency, and absolutely free from the vice of specialism, has depended originally, more or less, on the work of specialists.

As Harveian orator, Sir Russell Reynolds's chief idea seems to have been, that in his great work Harvey reaped much that he had not sown, but he also sowed much more which others after him might reap. "The thoughts of men are widened by the progress of the suns."

In the address the author of these essays prepared for the Bristol Medical Students, he spoke of the value of competition. He considered that final examinations were faced with far greater ease, if the student had competed intellectually every year with others in local struggles.

Perhaps one of the most striking of these papers is his address on sanitary science and preventive medicine, in which he goes much farther back than is usually done in these studies, and discusses the causes of disease which are inherent in the individual and those which are brought to bear upon him from the outside.

We leave untouched the interesting account of some of the early teachers in University College, as also the essay which commends to students the highest principles of religion; but Reynolds held in high regard his teachers and colleagues, and his wise outspoken words to students teem with the deepest Christianity.

The volume fitly closes with the Presidential Address given in London, not long before the author's death, at the annual meeting of the British Medical Association. The keynote was the power of living things for good or evil; viz., in the conservation of health, and in the prevention and cure of disease. In many respects this address was the outcome of his professional thought during his whole life. Accurate as he was in all medical work, his freshness and his power were founded on the wide views he took of life, his dislike to be limited to this or that theory, to this or that line of practice, his possession of "an incisive scientific perception, associated with a profound sense of those hidden laws of life, which evade analysis, but cannot be disregarded by genuinely intellectual minds": and these essays are a picture of the man.

Aphasia and the Cerebral Speech Mechanism. By WILLIAM ELDER, M.D. Pp. xii., 259. London: H. K. Lewis. 1897.

A difficult subject is here dealt with in an interesting and lucid manner. The reader will find in it a good general account of aphasia, in which both theoretical and pathologico-clinical considerations receive due attention. On the whole there are no important omissions, and the book has the advantage of not being of undue length. This necessitates brevity in some parts

of the subject and avoidance of long reports of cases; but the material used is judiciously selected. In dealing with aphasia one has first to consider the theoretical aspects of the question, and then see how far theory is borne out by clinical and pathological data. This plan the author has followed, and with success, in both divisions of the work.

Aphasia is one of the subjects in medicine in which theory founded on psychological data is in advance of observed facts; but such theoretical schemata as are given in this book are valuable, apart from their inherent probability, for the elucidation of unsettled problems, and as a guide to practical observations. In making reports of cases of aphasia it is essential to bear in mind the gaps in our present knowledge, and to examine the patients according to a plan which will leave no important point unanswered. Good directions are here given as to the mode of examination of patients, and if such directions were invariably followed we should rapidly extend our knowledge of aphasia. Meanwhile, the study of cases rather shows that, in the absence of a *post-mortem* examination, deductions as to the nature and extent of the lesion drawn solely from symptoms present during life are apt to mislead.

Dr. Elder takes the views of Broadbent and others with regard to the vexed question of the existence of an ideational centre and of a naming centre. The latter he locates in the posterior half of the 2nd and 3rd temporo-sphenoidal convolutions. He quotes an important case of Mills in favour of this view; but admits at the same time that other necropsies have shown more than one speech centre to be affected. He also follows Wyllie in considering the foot of the 3rd frontal convolution to be a "psycho-motor" or propositionising centre, whilst the lower part of the ascending frontal and parietal convolutions are the seat of centres of vocal or oral articulation only. He reports a case under his own observation where the lesion (hemorrhage) was limited to the lower part of the latter convolutions: the patient had defect in utterance, but no motor aphasia. It seems to us that the hypothesis of an ideational centre is unnecessary, and that the arguments adduced by Bastian in his Lumleian lectures against its existence hold good.

The author make the very pertinent observation that it is just in those cases of aphasia in which there is a limited lesion, and which would be of most value for the elucidation of doubtful problems, that recovery takes place. He gives a case of sensory aphasia of seventeen years' duration, and thinks that a too favourable view has heen taken of the tendency to greater and more rapid recovery in sensory than in motor aphasia, commonly said to be due to a more ready compensation by the right hemisphere. He holds, however, that recovery through compensation by the right hemisphere is always slow, and suggests that rapid recoveries are due to some other cause, very probably the functional nature of the lesion.

The view above referred to as to the existence of a psycho-motor speech-centre apart from the oral motor articulatory mechanism leads the author to place the seat of the mischief in hysterical mutism in the fibres connecting the two centres.

There is no need here for entering into further details of the many interesting discussions involved in the treatment of aphasia. We think that this book gives a very fair presentment of the subject, and that if read with Bastian's Lumleian lectures the student of aphasia would get a very complete acquaintance with our present knowledge of the subject. The two works admirably supplement each other, giving the arguments on both sides of many of the disputed points.

We conclude by commending this volume to our readers as deserving careful study; the author throughout gives the conclusions which he considers are established by theory and observed facts, but at the same time does justice to those who differ from him, is everywhere careful to point out how far theory is supported by pathological data, and is to be congratulated on having written a very useful and practical book.

Jahresbericht über die Fortschritte auf dem Gebiete der Chirurgie. II. Jahrgang, 1896. Redigirt und herausgegeben von Prof. Dr. HILDEBRAND. Wiesbaden: J. F. Bergmann. 1897.

This is a work of some thirteen hundred pages on the progress of surgery in the year 1896. To those who are accustomed to such modest compendiums as Braithwaite, or Cassell's or Wright's Annual, which profess to contain accounts of the advance of medical science in all its branches within the space of a few hundred pages, this volume may seem at first sight too bulky and immense to be of use in their work. But on looking into it, it is soon seen how exceedingly useful it is; for we find abstracts (in German) of the best papers on surgery, published in the year 1896, in Russia, Germany, Italy, France, Spain, and English-speaking countries. These abstracts are classified under their respective heads. In addition there are notices of all books on surgery brought out during the year. The result naturally is that the volume is a most valuable work of reference. Suppose, for instance, that we wish to find what work has recently been done in the domain of intracranial complications of middle-ear disease, there are to be found here abstracts of sixty-four papers published in the year.

There is a complete double index, one of names and the other of diseases and organs. The volume is a splendid example of the thoroughness of German scientific work, and of its eminently practical and useful results.

The Disorders of Digestion in Infancy and Childhood. By W. Soltau Fenwick, M.D. Pp. xiv., 377. London: H. K. Lewis. 1897.

Dr. Fenwick's contribution to the literature of the intestinal disorders of infancy and childhood is a scholarly and useful treatise, and gives evidence of careful observation in the hospital and practical conclusions drawn from a wide field.

Commencing with chapters on the anatomy and physiology of the stomach, the normal diet of children, and simple dyspepsia, he gives an excellent review of what he calls acute gastro-intestinal catarrh, including under this heading several disorders that are usually given a separate description. This disease he divides into two classes—the simple, or that caused by local irritation and the general, or toxæmic. This subdivision appears to us a very useful one, but it is not always so easy to determine clinically which variety is present. In the treatment of this disorder he calls attention to the great difference there is between theory and practice in the use of intestinal antiseptics, and points out that many of these drugs do not react in the same way in the bowel as in the test tube. Notwithstanding, he is evidently a firm believer in their use, and recommends several which experience has taught him are of value.

In the chronic form of the disease the almost constant absence of HCl in the gastric secretion is remarked on, and he points out what a retarding effect this disorder frequently has on the child's subsequent mental and physical growth.

The chapter on "Weak Digestion" is a good one and full of practical suggestions; but we are inclined to think that masturbation as a cause of weak digestion might have been left out.

A chapter is devoted to ulceration of the stomach, and medical literature has been ransacked for cases. That it does occur under the fourteenth year is known; but, as Dr. Fenwick notes, Rokitansky says he has never seen a case.

The remaining chapters deal with the rare intestinal diseases of children.

The book is a very useful one, full of information on the pathology and treatment of the subject of which it treats; but the style is a little laboured, and the book requires close attention in reading.

Septic Conditions of the Infantile Alimentary Canal, and their Treatment. By F. W. Forbes Ross, M.D. Pp. viii., 138, xi. London: The Rebman Publishing Company (Ltd.). 1897.

To the subject of this volume the author has evidently given much careful thought, and as the book has some merit, certain parts will be found useful for reference. We are quite at one

with the writer when he points out that success in the artificial feeding of infants and in the treatment of infantile gastro-intestinal disorders demands minute attention to details, trivial as some of these may appear. The chapter which he entitles "Sanitary Surroundings of Infantile Feeding in Health and Disease" is an eminently practical one, and the measures he there advises are founded on sound principles; and although the minutiæ may seem troublesome, they are certainly not unnecessary. We wish that the ideal plan that he gives of management of milch-cows, dairies, and milk distribution could be carried out: the necessity for some such system has recently been strongly borne in on the minds of residents in this neighbourhood. His directions for the treatment of intestinal diseases of children are good: the section on the employment of antiseptic remedies especially deserves praise; their value is abundantly confirmed by clinical experience. There is also a useful appendix giving modes of preparation of some simple foods, the dietary proper for infants at different ages, and directions for medicinal and dietetic treatment of intestinal disorders.

At the same time we must say that the clinical descriptions are too diffuse and not sufficiently clear, and that an embarrassing number of remedies are often advised. The author's style is throughout too vague and sometimes obscure, and there is a tendency to exaggeration and the redundant use of adjectives. We take exception to some of his statements, such as excoriation of the nates in infants "will kill, by the profound systemic derangement and exhaustion, if unattended," and to the arguments by which he infers that in some cases thrush is present somewhere in the alimentary canal, and acts as a cause of diarrhœa, even though the mouth and tongue show no signs of the fungus. The chapters on the gastric and intestinal secretions and on the bile do not add to the value of the book: some of the statements he makes on the properties of bile would certainly not be accepted by most physiologists. Rennin is misspelt "renin"; "enthusiastically hackneyed" we selected as a curious expression; and we are told that "castor oil . . . is perhaps after all the most valuable drug we possess in the treatment of sceptic [*sic*] conditions of the alimentary canal in infants." There is a section, which has little connection with the rest of the work, devoted to the advocacy of the use of orange juice in the treatment of typhoid fever; the reason for its use adduced is, that "organisms of a nature acting on sarcous matter will not to any great extent live in or act on a solution of vegetable acid." Amongst other favourable results of this treatment, the mental faculties were "capable of sustaining such light amusement as comic papers:" might not this be claimed by opponents of the treatment as evidence of mental deterioration? In spite of many faults, however, the book contains much good matter. It might be considerably shortened without detracting from its value.

Manual of Practical Morbid Anatomy. By H. D. ROLLESTON, M.D., and A. A. KANTHACK, M.D. Pp. xix., 240. Cambridge: At the University Press. 1894.

It seems rather late in the day to comment upon this useful little book; but as no previous notice of it has appeared in this *Journal*, we are glad of an opportunity to express our appreciation of its value. Not only is the book a most trustworthy guide to the methods of procedure adopted in the *post-mortem* room, but most of the morbid conditions seen in diseased organs are referred to and often briefly described. No intelligent student could use this as a hand-book without acquiring a sound basis of knowledge of morbid anatomy. The book displays at once the wide experience of the writers and their appreciation of those leading features that it is necessary to impress upon the beginner.

Diseases of the Ear, Nose, and Throat, and their Accessory Cavities. By SETH SCOTT BISHOP, M.D. Pp. xv., 496. Philadelphia: The F. A. Davis Company. 1897.

It is not uncommon at the present time to meet with text-books combining the subjects of ear, nose, and throat diseases, and we have nothing to say against this plan, inasmuch as they are very closely associated; while in clinical departments of hospitals, where students acquire their knowledge of these subjects, they are very frequently combined. The present work contains in a moderate compass a good condensed account of these affections, so as to constitute it a key or introduction to the exhaustive treatises which we possess on each topic separately. Several subjects are treated in greater detail than characterises the work as a whole: these being diphtheria, with its antitoxin treatment; surgical operations about the mastoid process; and the treatment of middle-ear affections by compressed air. These are all modern developments, and cannot be found fully treated in older works, hence we think the author has done wisely in giving them ample space. The chapters on diphtheria are excellent. A good account is given of the Klebs-Löffler bacillus, and the best means of diagnosing it from other similar micro-organisms; while a full account of the treatment by antitoxin, with its risks as well as its successes, is added. The author gives us one of the best accounts of the operations about the mastoid process that we have seen in any text-book. His descriptions are very clear, and are illustrated by photographs taken directly from life or from the cadaver so as to ensure absolute accuracy. We are not favourably impressed by the author's method of treating middle-ear affections by compressed air. He is not content with the ordinary Politzer's bag, nor with the common method of inflation through the Eustachian

catheter; but recommends instead the use of a reservoir armed with a pressure gauge, from which compressed air is allowed to issue through a stop-cock and pass through a close-fitting nose-piece into the nasal cavity, with the patient's nose firmly closed and cheeks fully distended. He recommends a pressure varying from a few pounds in infants up to sixty or eighty pounds in old, thickened, and hardened drum-heads. We should be very chary ourselves of using a method such as this, which must admit the possibility of considerable damage being occasionally done; and we altogether fail to see the advantage it possesses over older and safer methods. The book is one which can be safely recommended as a whole, and will amply repay a careful perusal.

Die Färbetechnik des Nervensystems. Von Dr. B. Pollack. Pp. v., 130. Berlin: S. Karger. 1897.

This will be found a very valuable little book to those who are working at the pathology of the nervous system. It gives an account of the various methods employed in the preparation of macroscopical and microscopical sections of the brain and spinal cord. As many of these methods are extremely complicated, and the description of some of them has to be hunted out in various journals, it is exceedingly convenient to have them collected together in the handy form of this volume. The author has dealt with his subject in a very complete and satisfactory manner, the description of the various processes being clearly put, and the most recent methods being included. He presupposes on the part of the reader some general knowledge of the elementary processes used in the cutting and preparing of microscopical sections. The author has compiled a most useful book, which will be found indispensable to all workers at this subject. It forms a volume of convenient size, which is clearly printed, well arranged for reference, with a sufficient index. There are some useful general directions at the end of the book.

An Account of the Life and Works of Dr. Robert Watt. By James Finlayson, M.D. Pp. 46. London: Smith, Elder, & Co. 1897.—The subject of this essay is probably better known to the public and possibly to the medical profession as the author of the *Bibliotheca Britannica*, than as one of the leading physicians of his time at Glasgow. Dr. Watt, like so many of his countrymen who have distinguished themselves in the world of literature and art, rose from a very humble position chiefly by his own efforts. Beginning life behind the plough, he raised himself to a position of no small reputation as a physician and lecturer on medicine, while from his pen came many useful and thoughtful

books and papers on a variety of subjects connected with his profession. During the seventeen years that he practised he was constantly and with the greatest diligence employed in collecting materials for his great work, the publication of which he was deprived of seeing by his early death at the age of forty-four. Though the work was almost completely in MS., it appears to have been only by a most strange series of coincidences that the book was ever published. Dr. Finlayson has made a very readable little essay on Dr. Watt's life and work, and has adorned it with an admirable photogravure of his subject, after a portrait attributed to Sir Henry Raeburn.

Problems of Nature: Researches and Discoveries of Gustav Jaeger, M.D. Edited and translated by HENRY G. SCHLICHTER, D.Sc. Pp. x., 261. London: Williams and Norgate. 1897.—To many Englishmen it will be news that the author of these essays, whose name is connected so prominently with various articles of clothing, is a worker in many branches of organic science. The essays here collected range over an extensive area of investigation, and deal with the doctrine of evolution, and questions such as training and exercise, the treatment of infectious disease, and the configuration of the arctic regions. The papers were originally published a long time ago and then had no doubt considerable value, and now in their English dress may still be read with interest.

Moods: Their Mental and Physical Character. [F. PHILLIPS]. Pp. 16. London: J. & A. Churchill. 1897.—This little pamphlet is apparently written with the object of pointing out that many of our "moods" depend on physical conditions; also to tell medical men that "mental cases" are imperfectly understood. If we are to be reminded of such obvious truisms, it ought to be done by someone who can claim a knowledge of the subject and an intelligible style of expression. These do not seem to be possessed by the author of this confusing paper.

Influenza. By WILLIAM GRAY, M.D. Pp. 71. London: H. K. Lewis. 1897.—Dealing with influenza from a clinical point of view, Dr. Gray here gives us his experience, which has extended over a large number of cases most carefully observed. The parts most worthy of notice are the description of influenza in childbed, and its diagnosis from puerperal septicæmia: the author finds that both are liable to occur between two and three days after confinement, but in puerperal septicæmia the onset is insidious and the symptoms gradually increase in severity, whilst the lochia are generally suppressed or altered in character, the milk-secretion is often arrested, and there are symptoms more or less referable to a pelvic origin; in influenza the onset is sudden, the duration of the acute stage short and the crisis rapid, whilst the lochia as a rule are not suppressed and there is no foul odour, and

the milk-secretion is not materially interfered with. There are also valuable remarks on the scarlatiniform rash which may occur; and on the average interval between an attack and subsequent relapse. The book is a good instance of the importance of carefully kept records in private practice, and of the value of the results to be obtained therefrom.

Die Chirurgische Asepsis der Hände. Von Dr. MED. WILH. POTEN. Pp. 47. Berlin: S. Karger. London: Williams and Norgate. 1897.—The methods of purifying the hands of the surgeon and gynæcologist have given rise to much discussion of late years, and it is possible that even yet more perfect and simple plans may be devised, but already the results are of immense practical value. The writer gives an interesting account of various plans which have been adopted, and especially discusses the value of disinfection by strong spirit, which he finds very trustworthy. He has now employed it solely for two years, during which he has performed a great number of laparotomies and vaginal hysterectomies. This booklet is well worth the attention of the operator who desires to obtain perfect results from his labour.

Practical Manual of Diseases of Women and Uterine Therapeutics. By H. MACNAUGHTON-JONES, M.D. Seventh Edition. Pp. xxiv., 909. London: Baillière, Tindall and Cox. 1897.—From cover to cover this book is essentially practical, but we think it is better adapted for the practitioner than the student. The work has rapidly run through its various editions, and is now half as large again as the fifth edition which was published in 1891. All the recent literature on the subject has been incorporated where necessary to bring it up to date, but the author in emphatic and somewhat racy language clearly expresses his own methods and views. The light vein which runs through the book helps to convey the practical lessons it is intended to teach, as for example where massage was employed in the case of a fibroid tumour, and the author tersely remarks that "the kinetic energy here might have been more safely expended on the lady's boots." The work is profusely illustrated, and will be found full of useful suggestions and sound treatment. We are glad to notice that the list on the title page of the societies to which the author belongs and his appointments now occupies only five lines instead of twelve.

Some Aspects of Infantile Syphilis. By J. A. COUTTS, M.B. Pp. 130. London: Rivington, Percival & Co. 1897.—It has become the fashion lately to reprint lectures in book form, and Dr. Coutts's Hunterian lectures of 1896 are worthy of this more lasting memorial. The lectures deal with inherited syphilis and the absolute and invariable truth of Colles's law. Many interesting facts are brought forward to show that the period during which a syphilitic parent may become the father of an

infected child is much longer than is usually stated, the author agreeing with the opinions of foreign syphilographers rather than those of the British school headed by Mr. Hutchinson. Dr. Coutts shows that exceptions do exist to Colles's law, but are so few that he does not consider that the practice of allowing healthy mothers to suckle tainted infants should be condemned. The lectures are well worth a careful study, the arguments both for and against being put very fairly and fully, while the author expresses his own opinions frankly in spite of their being opposed to many well-known authorities.

Aetiologische Studien über Lepra. Von Dr. EDWARD EHLERS. Pp. 64. Berlin: S. Karger. London: Williams and Norgate. 1896.—In this excellent *brochure* on the subject of the etiology of leprosy, Dr. Ehlers begins by a sketch of our knowledge of the spread of leprosy in the past, and of the resulting distribution of the disease at the present time. He then gives an account of a thorough investigation of leprosy in Iceland derived from personal observations. He found 119 cases: in 56 there was a history of leprosy in other members of the family; in 63 there was none, and contagion was probable in 20 of these, leaving only 43 cases in which no history of contagion was obtainable. Further, he shows that there are innumerable chances of infection both from the want of segregation and from the personal habits of the people. The author comes to the conclusion that leprosy is an infectious disease, and that inheritance plays no part whatever in its production. The booklet is illustrated by twenty-two most vivid representations of the clinical features of the disease, and which even by themselves would render this reprinted article well worth having.

Résultats de l'Examen histologique de 64 Végétations adénoïdes. Pp. 30. Bordeaux: G. Gounouilhou. 1896.—**Empyème du Sinus maxillaire chez les Enfants.** Pp. 13. **Pathogénie et traitement des Déviations et Éperons de la Cloison du Nez chez les jeunes Enfants.** Pp. 5. Bordeaux: G. Gounouilhou. 1896. **Traitement de l'Ozène.** Pp. 63. Bordeaux: Feret et Fils. 1897. **De l'Ouverture large de la Caisse et de ses Annexes.** Pp. 65. Bordeaux: Feret et Fils. 1897.—The clinical and operative work of Dr. Moure, the author of these pamphlets, is evidently of a very thorough character. He speaks of fifty-nine open operations on the tympanum and mastoid antrum without a single death as the direct result of the operation. He fully describes the various methods of operating in this region, such as those of Stacke, Schwartze, Küster, Bergmann, and others, and illustrates his descriptions with notes of cases operated on by himself. His observations are of great interest and value, and we recommend his work to the notice of all surgeons interested in this class of cases. Dr. Moure's remarks on ozæna, or fœtid atrophic rhinitis, indicate that he has spent much time

and trouble in investigating this most unsavoury subject. He does not originate any new theory of its etiology, nor does he recommend any novel method of treatment, but he passes in review the voluminous literature of the subject and makes some eminently practical observations. The chapters on adenoids and on empyema of the maxillary sinus in children are well worthy of perusal.

Transactions of the American Ophthalmological Society, 1896. Vol. VII., Part III. Hartford: Published by the Society. 1897.—Besides the memorial notice of the late Dr. H. W. Williams, this volume contains forty-three papers, most of them being records of cases. Dr. Bull's paper, comprising a record of thirty-six cases of orbital tumour which have been treated by him, is full of interest, and his conclusions are, in the main, in accordance with, and confirm, the generally accepted views with regard to the risk of interfering with these growths; though we should hesitate to accept the doctrine that the removal of the orbital periosteum hastens the return of the growth by depriving the underlying bone of its protecting envelope. The pathology of some of the tumours is not definitely stated; but, excluding six which appear to have begun as epithelioma of the lids (and therefore subject, surely, to rather different rules of surgical procedure), it is interesting to note that the average duration of life after the first operation was about fifteen months. All the thirty-six cases ended fatally, from coma in only four instances, from exhaustion in nearly all the others. In addition to this series, eight other cases, including one of carcinoma of the choroid, are related in detail by different authors. Dr. J. A. Andrews gives notes and illustrations of an example of tubercle of the iris, and furnishes a brief synopsis of thirty other recorded cases. "Double Chorio-Retinitis following Lightning Flash" is the title of a communication by Dr. C. A. Oliver. There is a want of precision in the notes, but the subjective sensations of the patient are minutely described and depicted. Such details are interesting from a psychological point of view, but should be accepted with the greatest reservation; for, in the first place, the patient was "a twenty-year-old engraver and artist" who previously had complained of muscular and accommodative asthenopia, and was suffering from "a low grade of compound hyperopic astigmatism," the extent of which is not specified. Secondly, there is nothing to show that the changes in the fundus did not exist before the eye was subjected to the flash of lightning, and the statement that "the left eye seemed normal in every respect" is contradicted a little further on by the note, "the nerve-head was a trifle too gray for age, and was somewhat hazy." The line of treatment—confinement to bed with the eyes bandaged, so that they might have thorough rest, and be subjected to unremitting daily examinations—is equally contradictory. There are three papers on glaucoma: in one, Dr.

Richey lays down the proposition that chronic glaucoma is due to some unhealthy digestive process which causes a hyperplasia of the connective tissue of the globe; but he does not adduce any evidence in favour of the proposition. Instances are related in which taxis and manipulation of the globe proved beneficial. There are several other papers of great interest and admirably illustrated, and yet others which are hardly worthy of permanent record, which occupy too much space in a volume which claims to contain the cream of American ophthalmic work.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XIV. Dublin: Fannin and Co., Ltd. 1896.—The whole tone of this volume is eminently practical. An interesting case of purulent pericarditis is described by Dr. J. O'Carroll. The pericardium was tapped on the twenty-ninth day of illness, thirty ounces of pus being withdrawn. It re-accumulated rapidly, and on the thirty-fifth day incision was resorted to, the centre of incision being at the seat of puncture, which was in the fourth left space, midway between the sternal edge and nipple. The patient, however, died five weeks later. The pericardium was almost entirely obliterated, and contained only a drachm of pus. Thirteen cases are referred to, of which eleven were treated by tapping, two by incision. Of the whole thirteen only two recovered, being the ones treated by incisions. This mode of treatment is strongly advocated, and seems from the standpoint of theory and practice to be correct. Dr. E. H. Tweedy gives a paper of much interest on the treatment of eclampsia. He condemns chloroform, the induction of labour and especially pilocarpin, and advocates the use of purgatives, morphia, and in some cases venesection. It is a subject on which statistics are difficult to obtain, and not of much value for many reasons; and therefore his paper is not very convincing, although good results by the methods he advocates are brought forward. The volume contains many articles of considerable interest and value.

Transactions of the Kentucky State Medical Society. New Series, Vol. V. Louisville: John P. Morton & Company. 1897. —Many interesting topics are treated in this volume in an instructive manner. We would call the attention of surgeons to Dr. L. S. McMurtry's contribution on stricture of the œsophagus and the different methods of performing gastrostomy so as to prevent leakage from the stomach after the operation; and of physicians to a series of papers on various forms of renal disease. The appendix receives the usual amount of attention, and the question of operative or non-operative treatment is discussed with much vigour, and in terms rather astonishing to English readers.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Vol. V. Edinburgh: William F. Clay. 1894.— Many valuable papers on anatomy, physiology, pharmacology,

and pathology will be found in this volume. It is difficult to single out the work of any particular men, but perhaps that of Gillespie on gastric digestion, and that of Boyd on the proteids of the urine in Bright's disease, are of especial interest to ordinary practitioners. Boyd shows conclusively that the transudation of proteids through the kidney in Bright's disease cannot be a simple process of filtration of these from the blood through a damaged epithelium; it is rather one of depraved or diseased secretory activity. Gillespie, amongst other interesting researches, has one on the question whether Ringer's dictum that acids inhibit acid secretions, whilst alkalies increase an acid secretion, and conversely, is true of the gastric as well as of the salivary glands. He finds that alkalies do increase and acids decrease the gastric acidity if given before food. He points out that, since the converse results will occur in the case of the pancreas, a dose of alkali before meals will increase both the gastric and pancreatic secretions, whilst acids act in the reverse direction. Hence, for ordinary intestinal flatulence acids should be given before meals, alkalies after. The volume abounds in good work, which, by increasing our knowledge of normal and pathological processes, gives us a better grip of clinical phenomena and improves our power both of treatment and prognosis.

The Year-Book of Treatment for 1898. London: Cassell and Company, Limited.—This now well-established, popular and well-arranged review of the past year's therapeutical progress maintains its well-earned reputation. Most of the contributors of the previous year have again held themselves responsible for their respective sections; but we note that Dr. G. A. Gibson is the author of the section on Diseases of the Heart and Circulation, and Dr. H. P. Hawkins writes on Diseases of the Stomach, Intestines and Liver. The text, which is embellished with many useful drawings and diagrams, contains in a very brief and readable form an enormous amount of valuable information for the practitioner.

The Stethoscope. *Bristol Medical Students' Journal.* No. I. January, 1898. Bristol: J. W. Arrowsmith.—The medical students of Bristol manifest an abundance of vitality in many directions. The Debating Society, the Dramatic Society, and the Cricket and Football Clubs must make considerable inroads upon the time which is available after the demands of the routine of the medical course have been satisfied, and now this new literary effort will stimulate all to increased activity in a very praiseworthy direction. The medical student is like the man who "the more he gave away the more he had"; he gives away much time and labour for the benefit of the sick, but his stock of knowledge grows thereby, and so we have no question that the time spent on this journal will be well spent, and will in the end be profitable. We wish our spirited contemporary all success, and hope that it will have a long and useful career.

The Dentist. No. 1. Vol. I. January, 1898. London: Hampton and Co.—The first number of this new monthly journal is in good taste, and printed in good style on excellent paper. Its articles are on various aspects of dentistry and form interesting reading. Whether there will be a demand for another dental journal remains to be seen; but there is always room for good things, and we wish the new comer success.

The Edinburgh Medical Journal. New Series, Vol. II. Edinburgh: Young J. Pentland. 1897.—We are pleased to congratulate the editor on the appearance of his second volume, which is well printed, well bound, and full of interesting matter. The original papers are numerous and original. The reviews of British and foreign literature are carefully done and signed by the respective writers, and the recent advances in the different branches of medical science are carefully recorded by well-known specialists in the various departments. Dr. Gibson and his staff of coadjutors may be counted upon for much useful work in the future.

Archives Provinciales de Chirurgie. Paris: Institut International de Bibliographie Scientifique.—Many of our readers will be glad to know that this well-written and well-illustrated periodical has been added to our exchange-list. It contains much that is original and useful, and little that we need hesitate to copy and advise.

Burdett's Official Nursing Directory. Compiled and Edited by Sir HENRY BURDETT. 1898. London: The Scientific Press, Limited.—Modelled somewhat on the same lines as the *Hospitals and Charities*, this work is likely to prove of use. In the making of these directories Sir Henry delights; he has the qualities for it, and probably a well-trained staff. The book contains an outline of the laws affecting nurses, information on the hospitals, on nursing agencies in the mother country and colonies, on provident funds; and also a directory of nurses named alphabetically. There should be also a local list.

Dr. Sajous tells us that *The Annual of the Universal Medical Sciences* is about to begin a modified series, while its companion, *The Universal Medical Journal* (formerly *The Satellite*) is to be continued as *The Monthly Cyclopædia of Practical Medicine*. Instead of giving, as heretofore, only excerpts of the new features of the year, the *Annual* will describe *in extenso* each disease, including its subdivisions: "Etiology," "Pathology," "Treatment," &c. Thus the reader will have before him what in the older work was left to his memory. If the year brings forth anything new it will be inserted in its place in the text. If there be nothing fresh to record upon any particular disease, the account of the latter will, at least, appear as it was when last studied.

Mr. W. B. Saunders, of Philadelphia, sends us a note calling our attention to some of the works he has at press. Amongst them are a volume on Genito-Urinary and Skin Diseases, which is to be issued in the "American Text-Book Series." We have gladly availed ourselves of the opportunity of speaking in the highest terms of many important works in that series, in which several other volumes, we observe with pleasure, are in preparation for early publication. Works on Orthopædic Surgery, Diseases of the Stomach, and Pathological Technique are only some of those that are promised in the year. Mr. Saunders also announces an English Edition of the excellent Atlases published by Lehmann, of Munich, in such admirable fashion and at such moderate prices.

As an evidence of local enterprise we welcome the announcement that Messrs. John Wright and Co. have undertaken the European publication of the *Laryngoscope*, a monthly journal of which upon its appearance in 1896 we spoke approvingly.

Notes on Preparations for the Sick.

Ammonol.—The Ammonol Chemical Co., New York.—This is described as a stimulant analgesic and antipyretic coal-tar product. Being an ammoniated product, it has no depressing effect on the heart; and being alkaline, it is of especial value in gastralgia depending on hyper-acidity. It is said to be very efficacious in the treatment of migraine, and also gives speedy relief to dysmenorrhœa. The dose is 5 to 20 grains in powder or in tablets.

Anti-Typhoid Serum.—Burroughs, Wellcome & Co., London. —It is generally admitted that the serum diagnosis of typhoid fever has passed beyond the experimental stage, and that the Widal test gives us a means of establishing the diagnosis of typhoid on more trustworthy grounds than heretofore, but whether as much as this can be said of the therapeutic use of an anti-typhoid serum is very doubtful. The serum has been found to have an indisputable bactericidal action, and has been thought to influence beneficially animals infected with virulent cultures of typhoid bacilli. Direct clinical evidence in man is scanty; doses of 10 to 20 c.c. may be injected without serious consequences, and also without any indication of improvement.

It is clear that the serum should be given in the early stages if it is to be of any use: it can be of little value after the four-

teenth day, and at this stage we are reluctant to interfere actively by injection for mere experimental purposes.

The serum is prepared in two forms; a fluid one is sent out in bottles of 10 c.c., and a dry one in phials containing the equivalent dose in scale form readily soluble in sterilised water.

In two cases in which we used it, it was not easy to say whether any definite result ensued: one case did well after five injections, amounting to a total of 11 c.c., extending from the fifteenth to the twenty-third day: the temperature fell on the twenty-seventh day, but did not remain at the normal till after the thirty-third day. The other case was a very severe one, with hemorrhages on the tenth and eleventh days: the temperature range continued high, and on the twenty-fifth day a dose of 10 c.c. was injected: a second dose of 10 c.c. was given on the twenty-seventh day; the temperature fell somewhat after each dose, but the patient died on the twenty-eighth day. We are not of opinion that these two cases give evidence against the use of the serum; neither do they give us much encouragement to expect benefit from its use.

Cream of Malt with Cod Liver Oil. Cream of Malt with Cod Liver Oil and Hypophosphites. Bipalatinoids: Ferri Hypophos. Co.—OPPENHEIMER, SON & Co., London.—The Oppenheimer Cream of Malt and its combinations are too well known to require commendation, and the bipalatinoids have all the advantages of the syrup in a very convenient form.

Vin Cocakola.—MAX MORELLA & Co., Nottingham.—This is a very pleasant fluid with no disagreeable qualities. The addition of the kola element must increase its nerve stimulation powers, and give it advantages over the ordinary preparations of coca; but we think that these medicinal wines should be looked upon as drugs and not taken as ordinary beverages in health.

Salutaris Water.—SALUTARIS WATER Co., London.—The importance to a community of a pure water supply cannot be over estimated. Even if the source be above suspicion, the risks of contamination *en route* and under ordinary domestic conditions are by no means small. To obviate these the Salutaris Company supply a distilled and aerated water which they claim to be absolutely free from unhealthy or unwelcome additions. We can speak highly of the samples we have received, and have enjoyed them much when used instead of the ordinary aerated water; but we doubt if their cost will permit of their being employed to a large extent for general table and toilet purposes, as the Company seem to hope.

Californian Wine: No. 8 Hock.—GRIERSON, OLDHAM & Co., London.—The notice which, in December, 1894, we gave to the wines of the Big Tree Brand did not include this variety of hock, which has since been sent to us. It can be recommended to those invalids who want something of the sort to help a poor appetite.

Soloids: Zinc and Tannin Compound; Sodium Biborate Compound; Alum Compound; Eucaine Hydrochloride.—BURROUGHS, WELLCOME & Co., London.—Those practitioners who are in the habit of ordering vaginal injections will be glad to know of the first three of these Soloids, which are convenient for readily preparing them. The first contains Zinci Sulph. gr. v., Plumbi Acet. gr. x., Ext. Op. gr. ij., Acid. Tannic. gr. j.; the second has Sod. Bibor. gr. xx. and Tinct. Op. m. x.; the third is composed of Zinci Sulph. gr. xv. and Pulv. Alum. gr. xv.

Eucaine is now well known as a local anæsthetic similar to cocaine, but without its toxic properties. We greatly prefer it to cocaine for most purposes, and the soloids, each containing either one or five grains, form a convenient method of using it.

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

December 8th, 1897.

Dr. J. E. SHAW, President, in the Chair.

Allusion was made to the ability displayed by the Medical Officers of Health in detecting the cause of the recent outbreak of enteric fever in Clifton. (See December number, p. 382.)

Dr. J. MICHELL CLARKE read a paper on "The Treatment of Enteric Fever." (For this and the discussion which took place upon it, see pp. 15-30.)

Mr. T. CARWARDINE showed a specimen of calcareous empyema. The man, aged 50, was admitted under the care of Dr. Shaw at the Royal Infirmary with symptoms of pleuritic effusion. Under nitrous oxide an opening was made in the 8th intercostal space, and twenty-three ounces of non-fœtid pus came away. The patient did not improve, and on resecting a portion of the 10th rib under chloroform some three weeks later much calcareous material could be felt with the finger. He refused any further operation, and died from hemorrhage six weeks after admission. *Post-mortem* the lung was collapsed, the pleura thickened and coated on its whole internal surface by a thick crust of calcareous deposit, including the upper surface of the diaphragm. The sour milk-like odour of the discharge towards the last suggested that lactic acid fermentation was taking place within the cavity.

January 12th, 1898,

Dr. J. E. SHAW, President, in the Chair.

Dr. F. H. EDGEWORTH showed (1) a case of Hodgkin's disease. The patient was 17 years of age, and had been ill only seven weeks. The lymph glands in the neck, axillæ and groins were enlarged, as were also the spleen, which extended 2 in. below the level of the umbilicus, and the liver. The interesting feature was the occurrence of a bilirubin jaundice, not hitherto described in this complaint. This was probably due to blood destruction from capillary hemorrhages. This view was supported by the fact that whilst the percentage of corpuscles was 38, that of hæmoglobin was 45; (2) A case of wrist-drop due to lead. The exceptional features were that the biceps and triceps jerks were exaggerated, and the musculo-spiral nerves were tender in both arms. This was probably due to the fact that the neuritis was in an early stage, and had not been described previously in cases of neuritis due to lead.

Mr. W. H. HARSANT showed a specimen of papillomatous disease of the bladder. The patient had been operated on four years previously, when the growth was removed by supra-pubic cystotomy. He remained free from the disease for three years, but it eventually recurred, and caused death by suppurative pyelitis.

Dr. BARCLAY BARON remarked on the removal of papillomatous growths from the larynx, and recommended the use of guarded laryngeal forceps with cutting edges, if forceps are employed for the removal of these growths. He also showed a large polypus removed from the naso-pharynx, which had its attachment within the nostril and projected into the mouth, and was snared off through the mouth. He recommended making traction on the growth previous to passing the snare wire up behind the palate by means of a blunt-ended pair of forceps, rather than of a sharp vulsellum, as these growths are apt to be cystic, and the vulsellum tears out the wall. No interference with the soft palate is usually necessary.

Dr. T. FISHER showed two specimens of extensive ulceration of the colon, a small spleen weighing only two ounces, two specimens of septic pneumonia, a case of thrombosis of one division of the renal vein, and a small abscess in the liver. These were all associated with enteric fever.—Dr. JAMES SWAIN referred to a case of abscess of the liver complicating typhoid fever in a child nearly 5 years of age. On December 8th—when suffering from a relapse, and when in the sixth week of the disease—the child had a rigor, for which no cause could be assigned. During the month the patient had seven rigors, and a slight eversion of the left costal cartilages was noticed. On January 2nd there was a distinct swelling in the epigastrium, obviously connected with the left lobe of the liver. The following day an incision was made in the parietes, an exploring needle passed into the liver to confirm the diagnosis of abscess, the liver stitched to the surface, the abscess (which appeared as large as a cricket ball) opened, and a drainage tube placed in the cavity. A culture of the fluid showed numerous colonies of actively motile bacilli of typhoid with some staphylococci. Since operation the child had made a steady improvement, the temperature being below normal.

The discussion on Dr. Michell Clarke's paper on "The Treatment of Enteric Fever" was continued (see p. 30).

Dr. J. G. SWAYNE read a paper on "Occipital Presentations." (This will be printed in a future number.)

February 9th, 1898.

Dr J. E. SHAW, President, in the Chair.

Dr. BARCLAY BARON showed a case of epithelioma of the larynx in a man aged 68 years. There was thickening of the arytenoid cartilage, the ary-epiglottic fold, the ventricular band on the right side, and the fossa outside the arytenoid is filled up with a nodular growth. The symptoms complained of are some difficulty of swallowing, difficulty of breathing, and extreme hoarseness, all of which have existed for six months and are increasing. The question of removal of half the larynx was considered, Mr. Morton seeing the patient in consultation; but inasmuch as the disease is extrinsic in this case, both laterally and on the œsophageal side having extended outside the limits of the larynx, and inasmuch as it is impossible to say to what extent the œsophagus is involved, it was thought unwise to undertake it. Tracheotomy may be urgently necessary, as there are paroxysms of severe dyspnœa at night, and not only does this procedure shield the patient from this danger, but it actually retards the progress of the growth by giving physiological rest to the larynx, which, owing to the glottis being encroached upon by the growth, is submitted to much wear and tear in sucking in the air under such difficulty.

The PRESIDENT showed a lad, aged 14, the subject of cerebellar ataxia. This malady, which Marie first described, is probably only a sub-group of cases originally included in Friedreich's ataxia. From the latter it is distinguished by the presence of increased knee-jerks, dyschromatopsia, and occasional eye-ground changes, and by the absence of scoliosis, the two forms possessing in common the quasi-alcoholic gait and speech. This case was remarkable for the rapidity of development and the youthfulness of the subject.

Mr. W. M. BARCLAY showed two patients on whom he had performed extensive resections of tarsal bones, and read a paper on "Tubercular Disease of the Foot." In the one case, after an unsuccessful attempt to cure tubercular disease starting in the scaphoid by gouging its interior, he, on 3rd September, 1896, excised the remains of the scaphoid and the whole astragalus; completely scooped out the os calcis, cuboid, external and middle cuneiforms—leaving only the shells of these; removed the articular cartilage and cancellous tissue of the external malleolus, cutting away pulpy synovial membrane. The wound healed entirely, and the patient had now a shapely foot, on which he was beginning to bear his weight. The second case came up in an advanced stage of disease, with discharging sinuses, a dorsal abscess, and necrosis of the terminal phalanx of the great toe. The scaphoid, the cuneiforms, the cuboid, and the entire fifth metatarsal bone were excised, and the bases of the remaining metatarsals were gouged freely. The astragalus and os calcis appeared to be healthy. The tip of the great toe was amputated. This operation was done on March 22nd, 1896; and when the patient was last seen shortly before Christmas, 1897, the wound remained closed, and the foot seemed well. Now, however, it was found that disease had reappeared in the astragalus: but in this situation it would doubtless be amenable to further treatment. In view of these results, and remembering the connections of the scaphoid, through its synovial sac, with the three cuneiforms, the second and third metatarsals, and the cuboid, and directly with the head of the astragalus behind, he would discard all scraping operations in early scaphoid disease, and advocate its clean excision. If, however, on undertaking this operation it were found that the disease had spread beyond it, he

advised excision of all the bones connected with it through the synovial membrane (as enumerated above), with excision of the head of the astragalus if the posterior articular surface of the scaphoid had been invaded. When the disease was more advanced, scraping and gouging operations might still give good results if *thoroughly* done: the affected tarsal bones should be excised, except the astragalus and os calcis, in which gouging was very successful. The possibility of getting rid of the synovial disease by scraping depended on the manner of its implication: if it had become infected by rupture of a tubercular focus into its cavity, the softened surface, to which for some time the tubercular deposits were limited, could be scraped away; but if the infection had spread from the edge of the bone, or if it were primary in the synovial membrane, the whole thickness of that membrane was the seat of tubercles, and it was too tough to be scraped. In cases of this kind, where the scaphoid group was infected, Mr. Watson Cheyne's suggestion of a clean excision *en bloc* by section through the heads of the astragalus, os calcis, and the bases of the metatarsals would probably give the best result. Where scraping operations were adopted, the raw bony surfaces and the wound cavity should be swabbed with pure liquefied carbolic acid, large quantities of iodoform should be introduced, and the whole cavity firmly packed with strips of iodoform gauze. Sepsis materially increased the risk of local reinfection and of general dissemination. Pure carbolic acid was the strongest means we had of combating this, and iodoform, in addition to its antiseptic properties, had a distinct influence over tubercular deposits. He urged the importance of continuing the strict antiseptic treatment of these cases until all sinuses had *completely* healed: that, after the first firm plugging of the cavities, the subsequent packings should only lightly fill the diminishing space, and be finally left out when only a sinus remained, so as not to keep it from closing: that rest, while invaluable here as in tubercular disease of other parts, should not be too long persevered in, to the exclusion of operation, unless unmistakable evidence of improvement were observed; but it should be *absolute*, for which purpose some form of stiff bandage, such as plaster-of-Paris, enclosing the foot, ankle, and leg, was the only efficient apparatus; and, if possible, this should be combined with the horizontal position. Advancing disease did not always give signs of its presence, when such absolute rest was maintained, so that it was necessary to inspect the foot at short intervals.—Mr. C. A. MORTON referred to those fortunate cases of tuberculous disease of the tarsus, in which the removal of one or two sequestra of tuberculous bone quickly brought the disease to an end; and also to a case of disease in the joint between the os calcis and astragalus, which was treated by erasion of the joint after separation of the two bones, when the tendo Achillis had been freely divided and the incision carried outwards along the upper border of the os calcis as for excision of that bone. Mr. Morton also referred to the difficulty in diagnosis of the seat of the tubercular disease, when situated in the lower end of the tibia and sinuses open around the astragalus.—In answer to Mr. Morton's remarks, Mr. BARCLAY said he had not attempted to give a complete account of tuberculosis of the foot. It was well known that the astragalus and os calcis were the most favourable sites for such disease in the foot, and thorough scraping, gouging, and other partial operations generally yielded excellent results in their case.

Professor FAWCETT showed: (1) Three original plaster models of the bony ear, one of the middle ear and its surroundings, one of the labyrinth, external aspect, and a third of the interior of the vestibule,

cochlea and the semicircular canals; (2) Three dissections of the brain, mounted by a new method in plaster-of-Paris, and described the method of mounting. One specimen showed especially the fascia dentata from below. The other was a preparation of the whole length of the fornix, it showed also the bundle of Vicq d'Azyr. The third was a preparation showing the velum interpositum, veins of Galen, and their formation. The veins and choroid plexuses were coloured. These preparations were all preserved in a two per cent. solution of formol, which had been found best for the purpose as it did not penetrate the cement; (3) A series of humeri with epiphyses from the first year up to 21; and three mounted specimens of the skeleton of the hand, two of which were of the age of from 10 to 11 years and showed the various epiphyses. These specimens of epiphyses were illustrative of a complete series of the whole body which have been prepared in the anatomical department during the past five months, and constitute a very valuable if not unique collection.

Dr. J. LACY FIRTH showed a dermoid removed from a woman, aged 38, together with the ovaries and Fallopian tubes and several omental dermoids of varying size. He read notes of the case and remarked upon the universal adhesions which had made the tumour difficult to remove. He remarked that the tumour appeared to be oöphoronic in origin. The omental dermoids were secondarily peritoneal, and had arisen primarily in ovarian tissue. They had been separated by adhesions. The patient was discharged in a healthy state in five weeks, but it was very likely that other peritoneal dermoids had been left behind.—Dr. AUST LAWRENCE advised the early removal of these tumours on account of the dangers from adhesions to bladder and pressure on ureter leading to surgical kidney.—Mr. J. EWENS detailed a case of dermoid cyst involving the left ovary, which was shown some years ago at this Society, removed from a girl, aged 7 years, in the Children's Hospital. It was about the size of a large orange, and contained bones of upper and lower jaw with six teeth, and a portion of scalp to which was attached a coil of hair measuring thirty inches when fully extended, a most unusual length as considered by Mr. Bland Sutton, who showed it at the Obstetrical Society of London. Patient made a rapid recovery, and when seen several years after she was free from any abdomimal affection.—Mr. C. A. MORTON suggested that perhaps the cyst was not oöphoronic in origin, as the ovary did not seem expanded by the growth of a large cyst, but might have been merely adherent to the cyst.—Mr. T. CARWARDINE remarked on the rarity and interest of the specimen, and thought the main cyst must have originated near, but not in the ovary itself, say in one of the tubules of the broad ligament. The origin of ovarian dermoids is difficult of explanation embryologically, as the genital ridge arises in the mesoblastic cœlom; but its continuity with epiblast is remotely established through the primitive streak of the embryo. The multiplicity of the dermoids might be accounted for by dissociated "rests" of the genital ridge persisting in the peritoneal cavity and there developing.—Dr. FIRTH, replying to Mr. Morton and Mr. Carwardine, said that in spite of their criticism he was still inclined to regard the tumour as of oöphoronic origin. He thought that the cyst in its early stages had probably been very prominent on the surface, and that the early growth had been towards the surface, thus exerting a minimum effect upon the ovarian stroma.

Dr. F. H. EDGEWORTH read a paper on "Hysterical Paroxysmal Œdema." (This will be printed in a future number.)

J. PAUL BUSH, *Hon. Sec.*

Plymouth Medical Society.

December 13th, 1897.

Dr. C. ALDRIDGE, President, in the Chair.

Mr. J. N. MORRIS showed a young, well-developed and muscular man with a condition of skin over the pectorals which he regarded as morphœa. Other members regarded it as simply over-stretching of the skin from excessive muscular exertion whilst rowing, with rapid muscular development, analogous to the lineæ albicantes after pregnancy.

Mr. J. R. ROLSTON showed a case of keratoglobus, and pointed out the seriousness of the outlook, these cases usually developing glaucoma.

Mr. ALDOUS gave an interesting demonstration of the urethroscope on the living subject, and handed round coloured plates representing the conditions most usually revealed by its aid.

Mr. RYAN showed a case which had recently developed signs and symptoms of a cerebral tumour; these, however, under the influence of iodides had almost disappeared at the time of exhibition.

Mr. WOOLLCOMBE showed, for Mr. Swain, a popliteal aneurysm removed from the limb of an old man, aged 78, after amputation through the thigh. The femoral had been ligatured at the apex of Scarpa's triangle twelve years before by the late Sir Wm. Savory.

Dr. F. BUSHNELL read a note on Torre's method of preserving pathological specimens.

Dr. PETHYBRIDGE showed a specimen and a microscopic slide of the radula of a limpet. Similar bodies had been passed *per rectum* in large numbers by a patient, and caused considerable intestinal irritation.

January 29th, 1898.

Dr. C. ALDRIDGE, President, in the Chair.

Mr. J. S. WARD showed a fine, healthy-looking girl whose left arm terminated abruptly two inches below the elbow, there being no trace of fingers or nails on the stump; the upper epiphyses of the radius and ulna were present, and apparently a portion of the diaphyses. The patient's mother attributed the deformity to an impression received during fifth month of pregnancy. Mr. Lucy, Mr. Whiteford, and Mr. Woollcombe regarded it as a case of intra-uterine amputation, probably by the umbilical cord.

Mr. LUCY showed a man, aged 26, who about three and a half years previously had received a cut, severing some of the flexor tendons an inch above the wrist; the tendons were sutured, but ever since he had been troubled with corns over the terminal phalanges of the index and second fingers, occasionally breaking down into excavated ulcers. He had anæsthesia corresponding to the distribution of the median nerve; the nails of the affected fingers were becoming incurved, and Mr. Lucy thought there were indications that the terminal phalanges were becoming absorbed.

Dr. F. BUSHNELL read notes of a case in which death had occurred in a young adult from fæcal impaction.

Mr. J. E. SQUARE showed a concretion removed from the umbilicus which was about ¾ inch long and ½ inch diameter, and consisted of free fatty acids and a substance somewhat resembling cholesterine, which was probably koprosterine. It was regarded as an intestinal concretion, which probably had ulcerated out of a Meckel's diverticulum.

Mr. ALDOUS showed a partially perforate hymen from a primipara.

Mr. WHITEFORD showed a supernumerary tooth from a case of cleft-palate.

Mr. HAMILTON showed three bean-shaped bodies, removed *post mortem* from the bladder of a man who died suddenly after a compound fracture of the leg. A further report was promised after a microscopical examination.

Mr. WOOLLCOMBE (for Mr. Swain) showed a kidney removed from a single woman with a large growth springing from the central pyramid, probably carcinoma.

W. L. WOOLLCOMBE, *Hon. Sec.*

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the list in December:

February 28th, 1898.

British Balneological and Climatological Society (1)	1 volume.
T. F. Edgeworth (2)	1 ,,
Laryngological Society of London (3)	1 ,,
Orleans Parish Medical Society (4)	3 volumes.
Medical Society of Pennsylvania (5)	4 ,,
Philadelphia County Medical Society (6)	3 ,,
Royal Academy of Medicine in Ireland (7)	1 volume.
Mrs. Greig Smith (8)	46 volumes.
R. Shingleton Smith, M.D. (9)	7 ,,
Trustees of the Smithsonian Institution (10) ...	7 ,,
The Surgeon-General, United States Army (11)	1 volume.
J. Wright and Co. (12)	2 volumes.

Unbound periodicals have been received from Dr. U. Reber and Dr. R. Shingleton Smith. A framed picture has been presented by Dr. A. E. Aust Lawrence.

TWENTY-SEVENTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Anders, J. M. ... *A Text-Book of the Practice of Medicine.* 2 parts ... 1898
Bashore, H. B. ... *Rural Hygiene* 1897
Beard, J. ... ... *The Span of Gestation and the Cause of Birth* 1897
Bice, G. D. Crothers and H. H. *Elements of Latin* 1898
Browne, O. A. ... *Aneurysms of the Aorta* 1897
Bruns, L. ... ... *Die Geschwülste des Nervensystems*... 1897
Catalogue (Index) of the Library of the Surgeon-General's Office, United States Army ... ... (11) 2nd Ser. Vol. II. 1897
Clarke, J. J. ... *Surgical Pathology and Principles* 1897
Crothers and H. H. Bice, G. D. *Elements of Latin* 1898
Dakin, W. R. ... *A Handbook of Midwifery* 1897
Delagenière, H. ... *Statistique des Opérations pratiquées au Mans du 1er Janvier au 31 Décembre, 1896* 1897
Freyberger, L. ... *The Pocket Formulary for the Treatment of Disease in Children*... 1898
Gasquet, F. A. ... *The Great Pestilence* (A.D. 1348-9) 1893
Gordon, H. L. ... *Sir James Young Simpson* (1811-1870) 1897
Hall, F. de H. ... *The Medical Examination for Life Assurance* 1898
Hutcheson, F. ... *A System of Moral Philosophy.* Vol. I. ... ... (8) 1755
Lawrie, J. M. ... *Notes on Thirty-two Consecutive Abdominal Sections, with Thirty Recoveries*... 1897
Lefert, P. ... ... *Lexique-Formulaire des Nouveautés médicales* 1898
Lewers, A. H. N. *Diseases of Women* ... ... 5th Ed. 1897
Macdonald, J. W. *Surgical Diagnosis and Treatment* 1898
Mitchell, C. P. ... *Dissolution and Evolution and the Science of Medicine* (9) 1888
Möbius, P. J. ... *Ueber die Tabes* 1897
Morison, A.... ... *Cardiac Failure* 1897
Niemeyer, [F. v.] *Éléments de Pathologie interne et de Thérapeutique.* 2me Éd. (Tr. par L. Culmann et C. Sengel.) 2 vols. in 1 ... ... (9) 1869
Nicolaysen, L. ... *Studier over Gonorrhoe* 1898
Paget, S. ... ... *Ambroise Paré and His Times* (1510-1590) 1897
"Physicist" ... *Human Nature.* Part I. 1897
Power, D'A. ... *Some Points in the Anatomy, Pathology, and Surgery of Intussusception* 1898
,, ... *William Harvey* 1897
Rees, A. ... ... *Cyclopædia.* 45 vols. ... ... (8) 1819-20
Scholtz, W. C. ... *The South African Climate* 1897
Selected Essays—Syringomyelia, Pemphigus, Yaws, Syphilis, &c. 1897
Shadwell, A. [Ed.] *The Tallerman Treatment* 1898

Sharp, R. F. ... *A Dictionary of English Authors* 1897
Smith, J. G. ... *Abdominal Surgery.* 6th Ed. (Ed. by J. Swain.) 2 vols. 1897
Snell, S. ... ... *The Examination of the Eye* 1898
Sprigge, S. S. ... *The Life and Times of Thomas Wakley* 1897
Therapeutics, A System of Practical. (Ed. by H. A. Hare.) Vol. IV. ... 1897
Turney, H. G. ... *Polyneuritis in Relation to Gestation and the Puerperium* 1898
Waring, H. J. ... *Manual of Operative Surgery* 1898
Webster, J. C. ... *Diseases of Women* 1898
Windle, B. C. A.... *Life in Early Britain* 1897
Wolfenden, R. N. *Radiography in Marine Zoology* 1897
Ziegler, E. ... ... *A Text-Book of Special Pathological Anatomy.* Sections IX.—XV. (Tr. and Ed. from 8th German Ed. by D. MacAlister and H. W. Cattell) 1897

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of Obstetrics, The ... ...Vol. XXXVI. 1897
American Journal of the Medical Sciences, The... ... ... Vol. CXIV. 1897
American Ophthalmological Society, Transactions of the. Vol. VIII., Part 1. 1897
American Practitioner and News, The ... ... Vols. XXIII., XXIV. 1897
American Public Health Association, Reports and Papers of the. Vol. XXII. 1897
American Surgical Association, Transactions of the... ... ...Vol. XV. 1897
Annali di Ostetricia e Ginecologia... 1897
Archives de Neurologie ... ... 2e Sér., Tomes III., IV. 1897
Archives of Pediatrics, The ... ... Vol. XIV. 1897
Birmingham Medical Review, The ... ... Vols. XLI., XLII. 1897
Boston Medical and Surgical Journal, The ... ... Vol. CXXXVI. 1897
Bristol Royal Infirmary Medical Society, The. 2nd Annual Report (2) 1852
British Journal of Dermatology, The ... ... Vol. IX. 1897
British Medical Journal, The ... ... Vol. II. for 1897
British Record of Obstetric Medicine and Surgery, The. Vols. I., II. 1848-49
Brooklyn Medical Journal, The ... ...Vol. XI. 1897
Bulletin de l'Académie royale de Médecine de Belgique—Table générale. 3e Sér. (1867-86) 1897
Centralblatt für Chirurgie 1897
Centralblatt für Gynäkologie 1897
Centralblatt für innere Medicin 1897
Cincinnati Lancet-Clinic, The ... ... Vol. LXXVIII. 1897
Congrès périodique international de Gynécologie et d'Obstétrique. 2me Session. 3 vols. 1897
Directory, Bristol and Clifton... ... ... (12) 1898
Directory, Matthews's New History of Bristol or Complete Guide and Bristol. 1794 ... ... (12) [1898]
Dublin Journal of Medical Science, The ... ... Vol. CIV. 1897
Écho médical du Nord, L' 1897
Edinburgh Medical Journal, The ... ... N.S., Vol. II. 1897

France médicale, La 1897
Gazette des Hôpitaux 1897
Gazzetta medica Lombarda 1897
Giornale internazionale delle Scienze mediche 1897
Hazell's Annual 1898
Hospitals—
Johns Hopkins Hospital Reports, The ... ... Vol. VI. 1897
St. Thomas's Hospital Reports ... ... N.S., Vol. XXV. 1897
Jahresbericht über die Fortschritte auf dem Gebiete der Chirurgie. II. Jahrgang 1897
Journal of Balneology and Climatology, The ... ... (1) Vol. I. 1897
Journal of Cutaneous and Genito-Urinary Diseases ... ... Vol. XV. [1897]
Journal of Laryngology, Rhinology, and Otology, The ... Vol. XII. 1897
Journal of Nervous and Mental Disease, The ... ... Vol. XXIV. 1897
Lancet, The... ... ... Vol. II. for 1897
Laryngological Society of London, Proceedings of the ... (3) Vol. IV. 1897
Laryngoscope, The ... ... Vol. III. 1897
Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases. Vol. IV. 1897
Medical Age, The ... ... Vol. XV. 1897
Medical Directory, The 1898
Medical Magazine, The ... ... (9) Vol. VI. 1897
Medical News, The ... ... Vol. LXXI. 1897
Medical Press and Circular, The ... ... [Vol. CXV.] 1897
Medical Record ... ... Vol. LII. 1897
Medical Society of London, Transactions of the ... ...Vol. XX. 1897
Mercy and Truth ... ... Vol. I. 1897
Münchener medicinische Wochenschrift 1897
New Orleans Medical and Surgical Journal. (4) N.S., Vols. XIX., 1892, XXI., 1894. (4) XLIX. 1897
New York Medical Journal, The ... ... Vol. LXVI. 1897
Odontological Society of Great Britain, Transactions of the. N.S., Vol. XXIX. 1897
Ophthalmological Society of the United Kingdom, Proceedings of the. Vol. XVII. 1897
Pennsylvania, Transactions of the Medical Society of (5) Vol. XXVII. 1896
Philadelphia County Medical Society, Proceedings of the. (6) Vols. XII., XIII. 1891-92
Post-Graduate, The... ... ... Vol. XII. [1897]
Practitioner, The ... ... Vol. LIX. 1897
Progrès médical, Le ... ... 3e Sér., Tome VI. 1897
Retrospect of Medicine, Braithwaite's... ... ... Vol. CXVI. 1898
Revue générale d'Ophtalmologie ... ... Tome XVI. 1897
Revue hebdomadaire de Laryngologie, d'Otologie et de Rhinologie. Tome XVII., Vol. II. 1897
Royal Academy of Medicine in Ireland, Transactions of the. (7) Vol. XV. 1897
St. Louis Medical and Surgical Journal, The. Vols. LXXII., LXXIII. 1897
Sanitary Record, The ... ...Vol. XX. 1897
Satellite, The ... ... Vols. IV.–VI. 1896–97

Scottish Medical and Surgical Journal, The	Vol. I.	1897
Smithsonian Report. (10) 1884, 1885, Part 1., 1886, Part 1., 1887, Part 1., 1890-92		
Therapeutic Gazette, The	Vol. XXI.	1897
Travaux pratiques d'Obstétrique et de Gynécologie		1898
West London Medical Journal	Vol. II.	1897
Whitaker's Almanack		1898
Wiener klinische Wochenschrift		1897
Year-Book of Treatment, The...		1898

Local Medical Notes.

BATH.

ROYAL UNITED HOSPITAL.—Mr. F. K. Green has been elected an Honorary Surgeon in the place of the late Mr. T. G. Stockwell, and Mr. F. Lace an Honorary Assistant-Surgeon in the place of Mr. Green.

BRISTOL.

UNIVERSITY COLLEGE.—Mr. J. Paul Bush, M.R.C.S. Eng., has been appointed Lecturer on Operative Surgery in place of Mr. C. F. Pickering, F.R.C.S. Eng., resigned.

The following students have recently passede xaminations:

University of London.—*Intermediate Examination* (Second Division)—S. R. Williams. *Excluding Physiology* (Second Division)—P. W. White. *Physiology only* (First Division)—D. T. Price.

Examining Board in England by the Royal Colleges of Physicians and Surgeons.—*First Examination. Part III. Elementary Biology*—W. B. Barnes, C. Corfield. *Second Examination. Anatomy and Physiology*—J. C. Norton, J. C. Wadmore. *Final Examination. Surgery*—W. S. V. Stock*; *Medicine*—A. B. Cridland, F. H. Rose,* W. S. V. Stock*; *Midwifery*—E. G. Bunbury, A. B. Cridland, G. Irvine, F. C. Morgan, R. Willcox, W. S. V. Stock.*

Indian Medical Service.—W. R. Battye, J. W. Watson.

THE CONVALESCENT HOME.—This Bristol Memorial of Her Majesty's sixty years' reign is now to all intents and purposes an accomplished fact. After searching for a suitable site or habitation, the Sub-Committee appointed for this object reported that, subject to the approval of the General Committee, they had arranged to purchase the large school occupied by the Rev. J. Wilkinson, with the four and a half acres of ground adjacent, the sum asked for and approved of being £20,000. This magnificent building, which all Bristolians have long known as Waynflete, so named after the founder of Magdalen College, Oxford, is close to Durdham Down, and can, with very little alteration, be made into a suitable home for convalescents.

The total sum required for the endowment of the institution is nearly obtained, and we understand that Mr. E. P. Wills, who it will be remembered offered a house that proved too small and otherwise unsuitable, has given the necessary money for the purchase of the building.

* Completes Examination.

International Congress of Hygiene and Demography.

Dr. Amalio Gimeno, Professor at the Faculty of Medicine of Madrid, who is the Secretary-General of the Congress, has sent us much interesting information in reference to it. This, the ninth Congress, is to be held this year at Madrid from the 10th to the 17th of April. Besides the important technical work of the Congress, much attention has been devoted to the pleasure of visitors, and we should strongly recommend those of our readers who can go to do so. The Congress is under the patronage of the King and the Queen-Regent, who will entertain the members at a reception. The Government and the Municipality are also organising receptions. Special concessions for getting to Madrid have been granted, and many tempting excursions have been arranged. Membership can be obtained by the payment of £1 to Sir Douglas Galton, 74a Margaret Street, London, who will give any further information that may be required.

SCRAPS

PICKED UP BY THE ASSISTANT-EDITOR.

Clinical Records (22).—Convalescent (dictating): "Please say to Mrs. Jackson that I thank her not alone for the brandy peaches that she so kindly sent me, but for the spirit in which they were sent."—*Journal of the American Medical Association.*

Sanitary Science.—As we have lately had prominently before us the subject of zymotic disease, it is appropriate to quote from an article in the *Sanitary Record*, in which Mr. H. Percy Boulnois records some answers which were given at examinations at the Sanitary Institute in the unenlightened days before candidates for sanitary inspectorships had the opportunity of bringing themselves to the high degree of perfection they have since attained.

One candidate, speaking of small-pox, said: "Small-pox is very 'catchy,' I've known cases spread over half a mile." And as to precautions to be taken with regard to the prevention of the spread of disease, the answer was given that "All discharges from the body of a cholera patient should be given to the Sanitary Authority to dispose of." Speaking of the necessary precautions to be taken during a severe case of small-pox, the answer was, "A precaution to be taken in small-pox is that the patient should be given an old rag for his own use," and another was of opinion that it was sufficient "to inquire whether the house was overcrowded and properly ventilated." Why the necessity for this summary proceeding does not readily appear, though for thoroughgoing obscurity of meaning the following answer takes the palm: "Cholera spreads through the air; as a proof of it, if you fly a kite with a piece of meat attached it turns black. Also by flying lights." Another answer with which, though we may thoroughly agree, we are somewhat puzzled, is that "No person should either give, use, or lend typhoid fever;" and another answer which occurred more than once at a provincial examination rather puzzled the examiners, as it looked as if the candidates must have been coached in some way, was that "Infected excreta must be stirred with a red-hot poker, taking care to bring the whole of it in contact." A rather unpleasant and dangerous operation for the nurse or inspector, if it formed part of his duty, and we may even infer the following suggestion as to dealing with infected emanations,

though the wording is suggestive of a different meaning from that no doubt intended to be conveyed by the candidate: "Excreta must be covered with chloride of lime and taken in the night;" and a rather curious answer to a question as to what was meant by a covered receptacle, was that "It was one covered by carbolic acid."

In reply to another question as to "What is commercial carbolic acid and what is it used for?" a candidate gave the following elaborate and remarkable answer: "Commercial carbolic acid is used by commercial people on their entering different dwellings in their travelling intercourse with the public, especially for their safety in sleeping apartments in different hotels and lodging-houses." This reply is considerably wide of the mark, as was that on a question of ventilation, when the reply was, "Oh, ventilation goes on by assumption;" and also the answer as to the objections to damp houses, which ran as follows: "Dry houses are more cheerful, as in damp ones the inmates must be continually mourning the loss of something in the shape of a death."

In the case of death arising from an infectious disease, the candidate said that "If the *body* or friends of deceased wish to prolong burial they must obtain a certificate from the Medical Officer of Health;" and another said that "It shall not be lawful to allow any body that has died of infectious disease in any bed-room, workshop," &c. What was to be done with it does not transpire; we can only trust it was not the same candidate who, in reply to a question as to what precautions he should take after a case of infectious disease, said he should "at once *throw everything out of the window*." We recommend the following answer to these candidates: "Where a person having died of an infectious disease *is without proper lodging accommodation*, the Local Authority may, by order of the justice, empower any of their officers to remove such person to the mortuary."

Medical "Bits of Old Bristol" (6).—I have not been able to find any account of special preventive measures adopted in Bristol during the Black Death epidemic of 1348. Probably the course of proceedings was much the same as that which Boccaccio in the Introduction to the *Decameron* describes as having taken place in Florence. In the Sydenham Society volume, entitled *The Epidemics of the Middle Ages*—a work which consists of a translation by Babington of Hecker's "Der Schwarze Tod," "Die Tanzwuth," and "Der Englische Schweiss"—Boccaccio is quoted as saying that some of the inhabitants "shut themselves up in their houses, with their wives, their children and households, living on the most costly foods, but carefully avoiding all excess. None were allowed access to them; no intelligence of death or sickness was permitted to reach their ears; and they spent their time in singing and music, and other pastimes. Others, on the contrary, considered eating and drinking to excess, amusements of all descriptions, the indulgence of every gratification, and an indifference to what was passing around them, as the best medicine, and acted accordingly. They wandered day and night from one tavern to another, and feasted without moderation or bounds. In this way they endeavoured to avoid all contact with the sick, and abandoned their houses and property to chance, like men whose death-knell had already tolled." Others "ate and drank what they pleased, and walked abroad carrying odoriferous flowers, herbs or spices, which they smelt to from time to time, in order to invigorate the brain, and to avert the baneful influence of the air infected by the sick, and by the innumerable corpses of those who had died of the plague. Others carried their precaution still further, and thought the surest way to escape death was by flight. They therefore left the city; women as well as men abandoning their dwellings, and their relations, and retiring into the country." (See also Wright's edition of the *Decameron* [1872], Chatto and Windus, pp. 30–31.) Almost all the physicians of the time held that the disease originated from astrological influences, yet they of course recognised that it was propagated by contagion. But the directions for preventing its spread consisted for the most part, as may be seen from the pronouncement of the College of Physicians of Paris, of minute and impracticable instructions about diet. I hope in a future number to give a few notes concerning the water-supply of Bristol at the period.

At the time of this invasion of the pestilence public opinion was not ripe for the adoption of severe measures of isolation, and little more of a general character was done than the attempted purification of the air by means of large fires in the affected districts. But before the century ended harsh methods were adopted, the nature of which may be gathered from the statement of Hecker (*Op. cit.*, p. 62), who says the regulation issued in Italy in 1374 ordained that every plague-patient was to be taken out of the city into the fields, there to die or to recover, and that those who attended upon a plague-patient were to remain apart for ten days, before they again associated with any body; that whoever imported the plague, the State condemned his goods to confiscation, and that none except those who were appointed for that purpose, were to attend plague-patients, under penalty of death and confiscation. We read that in 1399 infected houses were to be ventilated for at least eight or ten days, and purified from noxious vapours by fires, and by fumigations with balsamic and aromatic substances. Straw, rags, and the like, were to be burned; and the bedsteads which had been used, set out for four days in the rain or the sunshine, so that, by means of the one or the other, the morbific vapour might be destroyed. No one was to venture to make use of clothes or beds out of infected dwellings, unless they had been previously washed and dried, either at the fire or in the sun. By 1485 at Venice lazarettos were established of two kinds. In one the sick were treated, and when apparently well were detained for forty days in the other. The period of forty days from which we get the term quarantine was adopted partly on account of its frequent mention in the Bible as a term of isolation, and partly in deference to medical dogmatism, which had decreed forty days to be a critical time in many acute diseases, and had divided the period of gestation into seven such epochs which were supposed to mark definite developments of the fœtus.

For a long time arsenic worn as an amulet had a great reputation as a prophylactic. "W. Kemp, Mr. of Arts," who in 1665 issued *A Brief Treatise of the Nature, Causes, Signes, Preservation from, and Cure of the Pestilence*, speaks highly of several formulæ devised for the purpose. He cites with special commendation one from Rhenanus which was prepared by the following method: "Take of white and yellow Arsenick of each half an ounce, the powder of dried Toads two ounces, Mercury sublimed, Wheat Flowre, the Roots of Dittany, of each three drams, Saffron, the Fragments of Jacynth and Emerald of each one scruple, make them all into powder, and with Gum Dragon dissolved in Rose-water, make them into Cakes." These, which were to be "about the breadth of a Shilling and the thickness of two half Crowns," were to be dried in the sun or in an oven after the bread was taken out. Kemp directs his readers to "sew them in a little silk bag, fastening it to a ribbon, and hanging it about your Neck, let it lie about the middle of your Breast," and adds, "I have known some of these worn in the City of Bristol, in the time of the Plague, and the parties sometimes would have little pimples like the Itch, rise about the breadth of the Amulet in their Breast, which they did rub and scratch, but never had the Plague, and are alive till now."

It would be interesting if it could be discovered that Bristol doctors at any time took individual precautions at all like those which are mentioned in *Janus*, 1896-97, i. 97-103. Dr. Ch. Fiessinger there calls attention to the sanitary regulations employed in the 17th century to prevent the spread of the plague, and he reproduces from Manget's *Traité de la Peste*, published in Geneva in 1721, the drawing of the dress (Fig. 1) which should be worn by those visiting the plague-stricken. Manget says: "L'Habit exprimé dans cette figure n'est pas une chose de nouvelle invention, & dont on ait commencé l'usage dans la dernière Peste de Marseille: Il est d'une plus vielle datte (*sic*), & Messieurs les Italiens ont fourni à peu près de semblables figures, depuis fort longues années. Le nés en forme de bec, rempli de purfums (*sic*) & oint intérieurement de matiéres balsamiques, n'a véritablement que deux trous, un de chaque côté, à l'endroit des ouvertures du nés naturel; mais cela peut suffire pour la respiration, & pour porter avec l'air que l'on respire l'impression des drogues renfermées plus avant dans le bec. Sous le Manteau, on porte ordinairement des Bottines à peu près à la Polonaise, faites de Maroquin

de Levant; des Culottes de Peau unie, qui s'attachent aux dites Bottines; & une Chemisette aussi de Peau unie, dont on renferme le Bas dans les Culottes; le Chapeau & les Gans sont aussi de même Peau."

Alluding to Manget's statement that the dress was not a recent device, M. Reber, in a later number of *Janus*, pp. 297–300, refers to an article in *La Revue de Paris*, 1896, pp. 191–218, in which is quoted a description of a somewhat similar dress that Dr. Charles de L'Orme, physician to Louis XIII., adopted during a visitation of the plague in 1619. M. Reber possesses a drawing (Fig. 2) which represents the dress worn by a Marseilles doctor during a similar epidemic. The artist was Jean Melchior Fuesslinus, who lived from 1677 to 1736. The description in German is: "Abriss eines in Corduan-Leeder bekleideten mit einem von Pest-vertreibendem Rauchwerk angefüllten Nasen-Futer versehenen Doctors von Marseille. Der mit einem Steklein den Puls soll fühlen," which in English would read: "Sketch of a Doctor of Marseilles dressed in Cordovan leather and provided with a nose-case filled with a fumigating substance for keeping off the pestilence. He is to feel the pulse with a wand." The two figures[1] therefore represent the dress of practically the same period. The stick in the hand of Manget's figure seems too substantial to serve the purpose of feeling the pulse of the patient for which the lighter rod carried by the Marseilles doctor was intended.

Habit des Medecins, et autres personnes
qui visitent les Pestiferés, Il est de
marroquin de leuant, le masque a les yeux
de cristal, et un long nez rempli de parfums

Fig. 1.

1 For the loan of the blocks of these pictures I am indebted to the kindness of Dr. H. F. A. Peypers, the courteous editor of *Janus*.

Vbriß eines in Corduan-Leder bekleideten mit
einem von Peſt vertreibendem Rauchwerk angefüll.
ten Taſen-Huter derſehenen Doctors von Marseil
le. Der mit einem Stecklein den Puls ſoll fühlen.

Fig. 2.

Medical Philology (XXV.)—The *Promptorium* has "Cropōn of a beste," and the *Catholicon* has "a Croypon." The Latin equivalent in each case is *clunis*. Mr. Herrtage's note is:

"'*Clunis*. The buttock or hanche.' Cooper. '*Cropion*. The rump or crupper. *Le mal de cropion*. The rumpe-evill or crupper-evill; a disease wherewith small (cage) birds are often troubled.' Cotgrave."

H. G. Adams, in *Cage and Singing Birds*, says that the rump gland "forms part of the structural economy of every bird, and is intended for secreting the oily substance required to render the plumage supple and impervious to wet. The bird presses this gland, which is situated just above the rump, with its bill, and the oil oozes out; if this is not done frequently, the opening is apt to get clogged, and there being no vent for the increasing contents of the gland, it gets hard and inflamed."

The *New English Dictionary* gives several instances of the word *crupper*, popularly applied to that portion of the body which, because it "has been generously supplied by Providence with some sixteen different sensory nerves," is, in the opinion of a recent writer in the *Lancet*, specially marked out in bad boys for the application of a birch rod. The word is, however, not unknown in scientific anatomy, for the Sydenham Society Lexicon and Dr. Gould's Dictionary both give "crupper-bone, the coccyx."

A Physician's Estimate of his Class.—In Dr. S. Weir Mitchell's interesting "medicated novel," *Characteristics*, there is the following description of varieties of medical men that will suggest acquaintances to many of our readers: "There is no place where good breeding has so sweet a chance as at the bedside. There are many substitutes, but the sick man is a shrewd detective, and soon or late gets at the true man inside of the doctor.

"I know, alas! of men who possess cheap manufactured manners adapted, as they believe, to the wants of 'the sick-room'—a term I loathe. According to the man and his temperament do these manners vary, and represent sympathetic cheerfulness or sympathetic gloom. They have, I know, their successes and their commercial value, and may be of such skilful make as to deceive for a time even clever women, which is saying a great deal for the manufacturer. Then comes the rarer man who is naturally tender in his contact with the sick, and who is by good fortune full of educated tact. He has the dramatic quality of instinctive sympathy, and, above all, knows how to control it. If he has directness of character too, although he may make mistakes (as who does not?), he will be, on the whole, the best adviser for the sick, and the completeness of his values will depend upon mental qualities which he may or may not possess in large amount.

"But over and above all this there is, as I have urged, some mystery in the way in which certain men refresh the patient with their presence. I fancy that every doctor who has this power—and sooner or later he is sure to know that he has it—also learns that there are days when he has it not. It is in part a question of his own physical state; at times the virtue has gone out of him.

"I had a rather grim but most able surgeon. He seemed to me to have a death-certificate ready in his pocket. He came, asked questions, examined me as if I were a machine, and was too absorbed in the *physical me* to think about that *other me*, whose tentacula he knocked about without mercy, or without knowledge that tenderness was needed. Our consultant was a physician with acquired manners. He always agreed with what I said, and was what I call aggressively gentle; so that he seemed to me to be ever saying with calm self-approval, 'See how gentle I am.' I am told that with women he was delightfully positive, and I think this may have been true, but he was incapable of being firm with the obstinate. His formulas distressed me, and were many. He was apt to say as he entered my room, 'Well, and how are we to-day?' And this I hated, because I once knew a sallow undertaker who, in the same fashion, used to associate himself with the corpse, and comfort the living with the phrase, 'We are looking quite natural to-day.'"—*New York Medical Journal.*